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ATLAS OF THE FLORA OF NEW ENGLAND: FAMILIES OF VOLS. 17 & 18: FLORA OF NORTH AMERICA

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ABSTRACT

Dot maps are provided to depict the distribution at the county level of the taxa of Magnoliophyta: Families of volumes 17 and 18 of Flora of North America growing outside of cultivation in the six New England states of the northeastern United States. Families included are Adoxaceae, Aquifoliaceae, Campanulaceae, Caprifoliaceae, Lentibulariaceae, Orobanchaceae, Plantaginaceae, Rubiaceae, and Scrophulariaceae (Aquifoliales, Asterales, Dipsacales, Gentianales, Lamiales). The maps treat 274 taxa (species, subspecies, varieties, and hybrids, but not forms) based primarily on specimens in the major herbaria of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut, with most data derived from the holdings of the New England Botanical Club Herbarium (NEBC). Brief synonymy (to account for names used in standard manuals and floras for the area and on herbarium specimens), habitat, chromosome information, and common names are also provided.

This article is the thirteenth in a series (Angelo & Boufford 1996, 1998, 2000, 2007, 2010, 2011a, 2011b, 2012a, 2012b, 2012c, 2013a, 2013b) that presents the distributions of the vascular flora of New England in the form of dot distribution maps at the county level (Figure 1). Two more articles are planned. The atlas is posted on the internet at <http://neatlas.org>, where it will be updated as new information becomes available.

This project encompasses all vascular plants (lycophytes, pteridophytes and spermatophytes) at the rank of species, subspecies, and variety growing and established independent of cultivation in the six New England states. Hybrids are also included, but forms and other ranks below the level of variety are not. The dots are based on voucher specimens primarily in New England herbaria (of colleges, universities, botanical gardens, and public museums) representing reproducing populations outside of cultivated habitats. This thirteenth installment includes the families that will be included in volumes 17 and 18 of the Flora of North America North of Mexico. Of the 274 taxa treated, 127 are not native to the region. Future accounts will treat the distribution of additional non-monocot angiosperms.

The habitat data are distillations from a variety of sources augmented by our own field observations. An attempt was made to indicate habitat information as it applies to a particular taxon in New England rather than to the entire range of the taxon. Habitat information is not provided for hybrid taxa.

It is our hope that these articles will stimulate additional field work to supplement the distributions portrayed in the maps. The New England Botanical Club herbarium has proven to be the most important resource for this project. We are eager to receive information on voucher specimens in public herbaria documenting range extensions and filling county gaps in distributions. Similarly, because the atlas of the New England flora will be continuously updated as new information becomes

available, we are eager to receive notification of published corrections of cytological information and new, documented chromosome counts for taxa in the New England flora.

MATERIALS AND METHODS

Materials and methods are as outlined in Angelo and Boufford (1996) and in a web version (Angelo & Boufford 2011c) and are not repeated here.

TAXONOMY AND FORMAT

The taxonomy and nomenclature adopted for this work primarily follow that of draft treatments for the Flora of North America project and checklists of accepted taxa of The Flora of North America Expertise Network, except that families, genera, and species are arranged alphabetically. The families and their circumscription do not necessarily reflect current views on relationships or composition. The Angiosperm Phylogeny Website (Stevens 2001 onwards) should be consulted for a continuously updated treatment of families and their inclusive genera. Named and unnamed hybrid taxa are placed alphabetically at the end of the genus in which they occur. Unnamed hybrids combine the names of the progenitors alphabetically by epithet. Taxa that are not native to New England are indicated by uppercase text. Unpublished names are not used, even if publication is pending.

Chromosome numbers are taken primarily from draft treatments for the Flora of North America project and from Goldblatt and Johnson (1979–).

Synonymy is provided primarily with respect to names accepted in standard manuals covering New England published from 1950 onward, including Fernald (1950), Gleason and Cronquist (1991), and Seymour (1982) and on herbarium labels in New England herbaria. Synonyms have not been provided where the distribution for the synonymized name does not include New England.

The following list (which includes excluded taxa) will aid readers in finding familiar names that have been transferred to other taxa:

Antirrhinum (in part)	=>	*Misopates*
Asperula (in part)	=>	*Galium*
CALLITRICHACEAE	=>	*PLANTAGINACEAE*
CAPRIFOLIACEAE (in part)	=>	*ADOXACEAE*
CAPRIFOLIACEAE (in part)	=>	*DIERVILLACEAE*
CAPRIFOLIACEAE (in part)	=>	*LINNAEACEAE*
Diodia (in part)	=>	*Diodella*
GENTIANACEAE (in part)	=>	*MENYANTHACEAE*
Gerardia (in part)	=>	*Agalinis*
Gerardia (in part)	=>	*Aureolaria*
HIPPURIDACEAE	=>	*PLANTAGINACEAE*
Linaria (in part)	=>	*Nuttallanthus*
LOGANIACEAE (in part)	=>	*SCROPHULARIACEAE*
Mimulus (in part)	=>	*Diplacus*
Mimulus (in part)	=>	*Erythranthe*
Nemopanthus	=>	*Ilex*
SCROPHULARIACEAE (in part)	=>	*LINDERNIACEAE*
SCROPHULARIACEAE (in part)	=>	*MAZACEAE*
SCROPHULARIACEAE (in part)	=>	*OROBANCHACEAE*
SCROPHULARIACEAE (in part)	=>	*PAULOWNIACEAE*

SCROPHULARIACEAE (in part)	=>	*PHRYMACEAE*
SCROPHULARIACEAE (in part)	=>	*PLANTAGINACEAE*
Specularia	=>	*Triodanis*
Veronica (in part)	=>	*Pseudolysimachion*

The following species have been reported from our area but are excluded for the reasons noted:

CAMPANULA BONONIENSIS Linnaeus [report from Washington County, Maine, was based upon a misidentified specimen]

CAMPANULA LACTIFLORA M. von Bieberstein (*GADELLIA LACTIFLORA* (M. von Bieberstein) Schulkina) [insufficient evidence of wild occurrence -- voucher without habitat given; reported from southern Coös County, New Hampshire]

CAMPANULA LANATA Frivaldszky [no voucher of wild occurrence found; reported from Middlesex County, Massachusetts]

CASTILLEJA EXSERTA (A. Heller) T.I. Chuang & Heckard subsp. *EXSERTA* [no voucher of wild occurrence found; reported from Middlesex County, Massachusetts]

DIODIA VIRGINIANA Linnaeus var. *VIRGINIANA* [no voucher of wild occurrence found; reported from New Haven and New London counties, Connecticut]

Euphrasia × *aequalis* Callen (*E. nemorosa* (Persoon) Wettstein × *E. tetraquetra* (Brébisson) Arrondeau) [no voucher found; reported from Aroostook County, Maine]

Euphrasia suborbicularis P.D. Sell & Yeo [no voucher found; reported from Aroostook County, Maine]

GALIUM DIVARICATUM Pourret *ex* Lamarck [no voucher of certain identity and wild occurrence found; reported from Orleans County, Vermont]

Galium pilosum Aiton var. *puncticulosum* (Michaux) Torrey & A. Gray [no voucher found; reported from Connecticut]

ILEX AMBIGUA (Michaux) Torrey (*ILEX MONTANA* Torrey & A. Gray var. *MOLLIS* (A. Gray) Britton) [reported in error from Litchfield County, Connecticut, and Berkshire County, Massachusetts, based on the native *Ilex montana* Torrey & A. Gray records]

ILEX AQUIFOLIUM Linnaeus [no voucher of wild occurrence found; reported from Middlesex County, Massachusetts]

ILEX CASSINE Linnaeus [no vouchers found; reported from Grafton and Merrimack counties, New Hampshire]

KICKXIA SPURIA (Linnaeus) Dumortier [no voucher found; reported from Newport County, Rhode Island]

Limosella aquatica Linnaeus [no vouchers found; reported from Oxford and Somerset counties, Maine]

LINARIA ANGUSTISSIMA (Loiseleur-Deslongchamps) Borbás (*L. ITALICA* L.C. Treviranus) [no voucher of wild occurrence found; NEBC voucher apparently is misidentified *LINARIA VULGARIS* Miller; reported from Worcester County, Massachusetts]

LINARIA DALMATICA (Linnaeus) Miller subsp. *MACEDONICA* (Grisebach) D.A. Sutton [no voucher found; reported from Massachusetts]

LINARIA PINIFOLIA (Poiret) Thellung [no voucher of certain identity found; according to Llorenç Sáez in the draft treatment of *Linaria* for the Flora of North America project, all specimens seen in North America labeled as this species appear to be *L. MAROCCANA* J.D. Hooker and none of the Fairfield County, Connecticut, collections of Eames (#9511) are *L. PINIFOLIA* (Sáez, personal communication); reported from Fairfield County, Connecticut]

LONICERA ALPIGENA Linnaeus [no voucher of wild occurrence found; reported from Suffolk County, Massachusetts, on the grounds of the Arnold Arboretum]

LONICERA RETICULATA Rafinesque (*L. PROLIFERA* (G. Kirchner) Rehder) [no voucher of wild occurrence found; reported from Hampshire, Middlesex and Worcester counties, Massachusetts]

Lonicera villosa (Michaux) Schultes var. *fulleri* Fernald [no voucher found; reported from Norfolk County, Massachusetts]

MAZUS MIQUELII Makino (*M. REPTANS* N.E. Brown) [no vouchers of wild occurrence found; reported from Sagadahoc County, Maine, and Barnstable County, Massachusetts]

OROBANCHE MINOR Smith [no voucher of wild occurrence found; reported from Caledonia County, Vermont]

PENSTEMON BARBATUS (Cavanilles) Roth var. *BARBATUS* [no voucher of established wild occurrence found; reported from Suffolk County, Massachusetts]

RUBIA TINCTORUM Linnaeus [no voucher of established wild occurrence found; reported from Hampshire County, Massachusetts]

SCABIOSA ATROPURPUREA Linnaeus [no voucher found; reported from Waldo County, Maine]

SCABIOSA COLUMBARIA Linnaeus [no voucher of wild occurrence found; reported from Suffolk County, Massachusetts]

SUCCISA PRATENSIS Moench [no voucher of wild occurrence found; reported from Essex County, Massachusetts]

Utricularia striata Leconte *ex* Torrey (*U. fibrosa* misapplied) [no vouchers found; reported from Hartford County, Connecticut, and Barnstable County, Massachusetts]

VERONICA HEDERIFOLIA Linnaeus [no voucher of wild occurrence found; reported from Connecticut, and Newport County, Rhode Island]

VERONICA POLITA Fries [no voucher of wild occurrence found; reported from New Haven County, Connecticut, and Franklin and Oxford counties, Maine]

ANGIOSPERMAE (MAGNOLIOPHYTA) – ANGIOSPERMS

ACANTHACEAE

Justicia americana (Linnaeus) Vahl—(Figure 2). $2n = 26$. Margins or shallow beds of streams.

ADOXACEAE

SAMBUCUS EBULUS Linnaeus—Danewort (Figure 2). $2n = 36$. Roadsides. From Eurasia, northern Africa.

SAMBUCUS NIGRA Linnaeus subsp. *NIGRA*—European Elder (Figure 2). $2n = 36$. Waste ground. From Eurasia, northern Africa.

Sambucus nigra Linnaeus subsp. *canadensis* (Linnaeus) Bolli—Common Elder (Figure 2). $2n = 36$. Swamps, wet woods, damp roadsides, moist soil. [*S. canadensis* Linnaeus]

Sambucus racemosa Linnaeus subsp. *pubens* (Michaux) Hultén—Red-berried Elder (Figure 2). $2n = 36, 38$. Rich woods, openings, often rocky. [*S. pubens* Michaux]

Viburnum acerifolium Linnaeus—Maple-leaved Viburnum (Figure 2). $2n = 18$. Open woods.

Viburnum dentatum Linnaeus var. *dentatum*—Southern Arrow-wood (Figure 2). $2n = 36, 72$. Damp thickets, railroad ditches. [*V. dentatum* var. *deamii* (Rehder) Fernald); *V. dentatum* var. *scabrellum* Torrey & A. Gray; *V. dentatum* var. *pubescens* Aiton; *V. pubescens* (Aiton) Pursh]

Viburnum dentatum Linnaeus var. *venosum* (Britton) Gleason—(Figure 2). $2n = ?$ Sandy soil, brackish marshes.

VIBURNUM DILATATUM Thunberg—Linden Viburnum (Figure 2). $2n = 18$. Woods. From eastern Asia.

Viburnum edule (Michaux) Rafinesque—Squashberry (Figure 3). $2n = 18$. Woods, thickets, clearings by shores.

VIBURNUM LANTANA Linnaeus—Wayfaring-tree (Figure 3). $2n = 18$. Waste places, roadsides. From Eurasia, northern Africa.

Viburnum lantanoides Michaux—Hobblebush (Figure 3). $2n = 18$. Rich, moist woods, cool ravines, stream margins. [*V. alnifolium* misapplied]

Viburnum lentago Linnaeus—Nannyberry (Figure 3). $2n = 18$. Moist thickets, woodland margins, streambanks, roadsides.

Viburnum nudum Linnaeus var. *nudum*—Possum-haw (Figure 3). $2n = 18$. Swamps.

Viburnum nudum Linnaeus var. *cassinoides* (Linnaeus) Torrey & A. Gray—Witherod (Figure 3). $2n = 18$. Thickets, clearings, swamps, woodland margins, usually in moist soil. [*V. cassinoides* Linnaeus]

VIBURNUM OPULUS Linnaeus var. *OPULUS*—Guelder-rose (Figure 3). $2n = 18$. Roadsides, shores, thickets, field margins. From Eurasia.

Viburnum opulus Linnaeus var. *americanum* Aiton—Highbush Cranberry (Figure 3). $2n = 18$. Wet thickets, shores, swamps, cool, moist woods, railroads. [*V. trilobum* Marshall]

VIBURNUM PLICATUM Thunberg—Japanese Snowball (Figure 3). $2n = 18$. Roadsides, rich or moist woods. From eastern Asia.

Viburnum prunifolium Linnaeus—Black Haw (Figure 4). $2n = 18$. Rich woods, dry limestone ledges, dry copse margins, dry, open rocky ground.

Viburnum rafinesqueanum Schultes var. *rafinesqueanum* Downy Arrow-wood (Figure 4). $2n = 36$. Waste places. Thickets, dry, rocky or open woods, dry ledges, often calcareous. [*V. pubescens* misapplied]

Viburnum recognitum Fernald—Smooth Arrow-wood (Figure 4). $2n = 36$. Damp thickets, swamps, moist woods. [*V. dentatum* Linnaeus var. *lucidum* Aiton]

VIBURNUM SETIGERUM Hance—Tea Viburnum (Figure 4). $2n = 18$. Fields, woodland margins, hillsides. From eastern Asia.

VIBURNUM SIEBOLDII Miquel—(Figure 4). $2n = 16$. Woodland margins, disturbed woodlands, moist deciduous woods, field margins, waste places, cemeteries. From Japan.

AQUIFOLIACEAE

ILEX CRENATA Thunberg—Japanese Holly (Figure 4). $2n = 34$. Dry, oak woodland margins, thickets. From eastern Asia.

Ilex glabra (Linnaeus) A. Gray—Inkberry (Figure 4). $2n = ?$ Swamps, wet woods, low sandy or peaty soil.

Ilex laevigata (Pursh) A. Gray—Smooth Winterberry (Figure 4). $2n$ = ? Swamps, wet woods, thickets.

Ilex montana Torrey & A. Gray—(Figure 4). $2n$ = ? Rich wooded slopes and mountainsides.

Ilex mucronata (Linnaeus) M. Powell, Savolainen, S. Andrews—Mountain-holly (Figure 5). $2n$ = 40. Swamps, bogs, damp thickets, cool, damp woods. [*Nemopanthus mucronatus* (Linnaeus) Trelease *ex* Loesener]

Ilex opaca Aiton var. *opaca*—American Holly (Figure 5). $2n$ = 36. Moist, often sandy, woods, dune hollows, swamps and swamp margins.

Ilex verticillata (Linnaeus) A. Gray—Common Winterberry (Figure 5). $2n$ = 36. Swamps, damp thickets, wet woods, pond margins. [*I. verticillata* var. *cyclophylla* B.L. Robinson; *I. verticillata* var. *fastigiata* (E.P. Bicknell) Fernald; *I. verticillata* var. *padifolia* (Willdenow) Torrey & A. Gray *ex* S. Watson; *I. verticillata* var. *tenuifolia* (Torrey) S. Watson]

BIGNONIACEAE

CAMPSIS RADICANS (Linnaeus) Bureau—Trumpet-creeper (Figure 5). $2n$ = 40. Fields, woods, thickets, waste places, roadsides, railroad right-of-ways. From farther south and west.

— *Campsis* hybrid —

CAMPSIS × *TAGLIABUANA* (Visiani) Rehder—(Figure 5). [*C. GRANDIFLORA* (Thunberg) K. Schumann × *C. RADICANS* (Linnaeus) Bureau]

CATALPA BIGNONIODES Walter—Southern Catalpa (Figure 5). $2n$ = 40. Roadsides, waste places, streambanks. From farther south.

CATALPA OVATA G. Don—Chinese Catalpa (Figure 5). $2n$ = 40. Roadsides, railroads, waste places, streambanks. From China.

CATALPA SPECIOSA Teas—Northern Catalpa (Figure 5). $2n$ = 40. Roadsides, railroads, waste places, moist woods, streambanks. From farther south and west.

CAMPANULACEAE

Campanula aparinoides Pursh—Marsh Bellflower (Figure 5). $2n$ = 34, 68. Swamps, shores, meadows. [*C. aparinoides* var. *grandiflora* Holzinger; *C. uliginosa* Rydberg]

CAMPANULA CARPATICA Jacquin—Tussock Bellflower (Figure 6). $2n$ = 34. Fields. From eastern Europe.

CAMPANULA DIVARICATA Michaux—Southern Harebell (Figure 6). $2n$ = 34. Railroad ballast. From farther south.

CAMPANULA GLOMERATA Linnaeus—Dane's-blood (Figure 6). 2*n* = 30, 34, (90). Fields, roadsides. From Eurasia.

CAMPANULA LATIFOLIA Linnaeus—Giant Bellflower (Figure 6). 2*n* = 34. Roadsides, waste areas. From Eurasia.

CAMPANULA MEDIUM Linnaeus—Canterbury-bells (Figure 6). 2*n* = 32, 34. Waste places. From southern Europe.

CAMPANULA PATULA Linnaeus—(Figure 6). 2*n* = 20, 40. Waste places, fields, roadsides, riverbanks. From eastern Asia.

CAMPANULA PERSICIFOLIA Linnaeus—(Figure 6). 2*n* = 16. Wooded banks, cedar groves on high bluffs, shady ditches, wet meadows, roadsides, waste places. From Eurasia. [*C. PERSICIFOLIA* var. *ALBA* Hortulanorum]

CAMPANULA PUNCTATA Lamarck—(Figure 6). 2*n* = 34. Roadsides. From eastern Asia.

CAMPANULA RAPUNCULOIDES Linnaeus—Creeping Bellflower (Figure 6). 2*n* = 68, 102. Roadsides, thickets, waste places. From Eurasia. [*C. RAPUNCULOIDES* var. *UCRANICA* (Besser) K. Koch]

Campanula rotundifolia Linnaeus—Harebell (Figure 7). 2*n* = 34, 68, 102. Ledges, rocky slopes, gravelly or rocky shores, meadows, fields, often in calcareous soil.

CAMPANULA TRACHELIUM Linnaeus—Bats-in-the-belfry (Figure 7). 2*n* = 34. Waste places. From Eurasia, northern Africa.

JASIONE MONTANA Linnaeus—Sheep's-bit (Figure 7). 2*n* = 12. Roadsides, sandy banks, fields, waste places, often in sandy soil. From Eurasia.

Lobelia cardinalis Linnaeus—Cardinal-flower (Figure 7). 2*n* = 14. Along streams, other freshwater shores, meadows, swamps.

Lobelia dortmanna Linnaeus—Water Lobelia (Figure 7). 2*n* = 14. Sandy or gravelly pond shores in shallow water.

Lobelia inflata Linnaeus—Indian Tobacco (Figure 7). 2*n* = 14. Fields, clearings, open woods, roadsides, waste places.

Lobelia kalmii Linnaeus—Brook Lobelia (Figure 7). 2*n* = 14. Shores, bogs, *Thuja* swamps, in calcareous soil.

Lobelia siphilitica Linnaeus var. *siphilitica*—Great Blue Lobelia (Figure 7). 2*n* = 14. Wet spots, often in calcareous soil.

Lobelia spicata Lamarck—Pale-spiked Lobelia (Figure 7). 2*n* = 14. Rich meadows, moist fields, woodland trails and openings. [*L. spicata* var. *campanulata* McVaugh; *L. spicata* var. *hirtella* A. Gray]

Triodanis perfoliata (Linnaeus) Nieuwland subsp. *perfoliata*—Venus's Looking-glass (Figure 8). $2n = 60$. Woods, ledges, sandy soil, sterile, often disturbed, open ground. [*Specularia perfoliata* (Linnaeus) A. de Candolle]

CAPRIFOLIACEAE

Lonicera canadensis Bartram & W. Bartram *ex* Marshall—Fly-Honeysuckle (Figure 8). $2n = 18$. Woods, often moist or rich, woodland borders.

Lonicera dioica Linnaeus—Limber Honeysuckle (Figure 8). $2n = ?$ Open, often rocky woods, ledges, thickets, rocky banks, roadsides, fields.

LONICERA FRAGRANTISSIMA Lindley & Paxton—Sweet-Breath-of-Spring (Figure 8). $2n = ?$ Shrubby roadsides. From China.

Lonicera hirsuta Eaton—Hairy Honeysuckle (Figure 8). $2n = 18$. Wooded ledges, knolls and slopes, in calcareous soil.

LONICERA JAPONICA Thunberg—Japanese Honeysuckle (Figure 8). $2n = 18, 36$. Woodland margins, thickets, roadsides. From eastern Asia.

LONICERA KOROLKOWII Stapf—(Figure 8). $2n = ?$ Rock walls. From southwestern Asia.

LONICERA MAACKII (Ruprecht) Maximowicz—Amur Honeysuckle (Figure 8). $2n = 18$. Woods, woodland margins, fields, roadsides, thickets, waste places. From eastern Asia.

LONICERA MORROWII A. Gray—(Figure 8). $2n = 18$. Roadsides, thickets, fields, woodland margins, waste places. From eastern Asia.

Lonicera oblongifolia (Goldie) Hooker—Swamp Fly-Honeysuckle (Figure 9). $2n = 18$. Bogs, swampy thickets, wet woods. [*L. oblongifolia* var. *altissima* (Jennings) Rehder]

LONICERA PERICLYMENUM Linnaeus—European Honeysuckle (Figure 9). $2n = 18, 36, 54$. Wooded ledges near habitation, roadsides. From southern Europe, northwestern Africa.

Lonicera sempervirens Linnaeus—Trumpet Honeysuckle (Figure 9). $2n = 36$. Woods, wooded banks, thickets, shrubby ledges, roadsides.

LONICERA TATARICA Linnaeus—Tartarian Honeysuckle (Figure 9). $2n = 18$. River thickets, woodland margins, roadsides, waste places. From central Asia.

Lonicera villosa (Michaux) Schultes var. *villosa*—Mountain Fly-Honeysuckle (Figure 9). $2n = 36$. Swamps, meadows, bogs, wet woods, often in sphagnous soil. [*L. caerulea* Linnaeus var. *villosa* (Michaux) Torrey & A. Gray]

Lonicera villosa (Michaux) Schultes var. *calvescens* (Fernald & Wiegand) Fernald—(Figure 9). $2n = ?$ Swamps, meadows, bogs, wet woods, often in sphagnous soil.

Lonicera villosa (Michaux) Schultes var. *solonis* (Eaton) Fernald—(Figure 9). $2n$ = ? Swamps, meadows, bogs, wet woods, often in sphagnous soil.

Lonicera villosa (Michaux) Schultes var. *tonsa* Fernald—(Figure 9). $2n$ = ? Swamps, meadows, bogs, wet woods, often in sphagnous soil.

LONICERA XYLOSTEUM Linnaeus—European Fly-Honeysuckle (Figure 9). $2n$ = 18. Roadsides, thickets, woods, waste places. From Eurasia.

— *Lonicera* hybrids —

LONICERA × *BELLA* Zabel—(Figure 10). [*L. MORROWII* A. Gray × *L. TATARICA* Linnaeus]

LONICERA × *PURPUSII* Rehder—(Figure 10). [*L. FRAGRANTISSIMA* Lindley & Paxton × *L. STANDISHII* Carrière]

Symphoricarpos albus (Linnaeus) S.F. Blake var. *albus*—Common Snowberry (Figure 10). $2n$ = 54. Wooded, calcareous ledges.

SYMPHORICARPOS ALBUS (Linnaeus) S.F. Blake var. *LAEVIGATUS* (Fernald) S.F. Blake—(Figure 10). $2n$ = 72. Roadsides, wooded hillsides, usually near habitation. From farther west.

SYMPHORICARPOS OCCIDENTALIS Hooker—Wolfberry (Figure 10). $2n$ = 36. Waste places. From farther west.

SYMPHORICARPOS ORBICULATUS Moench—Coralberry (Figure 10). $2n$ = 18. Roadsides, fence-rows, waste places, meadows. From farther west and south.

Triosteum angustifolium Linnaeus—Yellow Horse-Gentian (Figure 10). $2n$ = ? Rocky, rich woods, thickets.

Triosteum aurantiacum E.P. Bicknell var. *aurantiacum*—Red Horse-Gentian (Figure 10). $2n$ = ? Dry, rich, rocky woods, thickets.

Triosteum perfoliatum Linnaeus—Tinker's-weed (Figure 10). $2n$ = 18. Woods, thickets, usually in rocky or thin soil.

— *Triosteum* hybrid —

Triosteum × *eamesii* (Wiegand) A. Haines—(Figure 11). [*T. angustifolium* Linnaeus × *T. aurantiacum* E.P. Bicknell var. *aurantiacum*; *T. angustifolium* Linnaeus var. *eamesii* Wiegand]

DIERVILLACEAE

Diervilla lonicera Miller—Bush-Honeysuckle (Figure 11). $2n$ = 36. Dry woods, clearings, thickets, woodland margins, rocky places.

WEIGALA FLORIBUNDA (Siebold & Zuccarini) K. Koch—Crimson Weigela (Figure 11). $2n$ = 36. Thickets, rocky roadsides. From Japan.

DIPSACACEAE

CEPHALARIA GIGANTEA (Ledebour) Bobrov—Yellow Scabious (Figure 11). $2n$ = 35, 36. Roadsides. From southwestern Asia. [*C. TATARICA* misapplied]

DIPSACUS FULLONUM Linnaeus—Fuller's Teasel (Figure 11). $2n$ = 18. Fields, roadsides, waste places. From Eurasia, northwestern Africa. [*D. SYLVESTRIS* Hudson]

DIPSACUS LACINIATUS Linnaeus—(Figure 11). $2n$ = 18. Waste places, roadsides. From Eurasia.

KNAUTIA ARVENSIS (Linnaeus) Coulter subsp. *ARVENSIS*—Bluebuttons (Figure 11). $2n$ = 20, 40. Fields, roadsides, waste places. From Eurasia.

KNAUTIA ARVENSIS (Linnaeus) Coulter subsp. *ROSEA* (Baumgarten) Soó—(Figure 11). $2n$ = ? Waste places. From Europe. [*K. DUMETORUM* Heuff]

SCABIOSA OCHROLEUCA Linnaeus—Cream Scabious (Figure 11). $2n$ = 16. Waste places, gravel pits. From Eurasia.

SUCCISELLA INFLEXA (Kluk) Beck—(Figure 12). $2n$ = 20. Low, swampy ground, river meadows. From Europe. [*SUCCISA AUSTRALIS* (Wulfen) Reichenbach]

LENTIBULARIACEAE

Pinguicula vulgaris Linnaeus subsp. *vulgaris*—Common Butterwort (Figure 12). $2n$ = 64. Wet rocks, open spots, chiefly at high altitudes.

Utricularia cornuta Michaux—(Figure 12). $2n$ = 18. Pond shores, bogs.

Utricularia geminiscapa Benjamin—(Figure 12). $2n$ = ? Ponds, pools, sluggish streams.

Utricularia gibba Linnaeus—(Figure 12). $2n$ = ? Ponds, pools, bogs. [*U. biflora* Lamarck; *U. fibrosa* Walter]

Utricularia inflata Walter—(Figure 12). $2n$ = 18, 36. Ponds.

Utricularia intermedia Hayne—(Figure 12). $2n$ = (22), 44. Ponds, pools, bogs, swamps.

Utricularia minor Linnaeus—(Figure 12). $2n$ = 36, 44. Ponds, pools, wet meadows, bogs, shores.

Utricularia purpurea Walter—(Figure 12). $2n$ = ? Ponds, sluggish streams.

Utricularia radiata Small—(Figure 13). $2n$ = ? Ponds, sluggish streams. [*U. inflata* Walter var. *minor* Chapman]

Utricularia resupinata B.D. Greene *ex* Bigelow—(Figure 13). 2*n* = 44. Shores of ponds, lakes and rivers.

Utricularia subulata Linnaeus—(Figure 13). 2*n* = ? Sandy pond shores, swamps, in peat or leaf mold.

Utricularia vulgaris Linnaeus subsp. *macrorhiza* (Leconte) R.T. Clausen—(Figure 13). 2*n* = 36, 44. Ponds and other quiet water. [*U. vulgaris* subsp. *vulgaris* misapplied]

LINDERNIACEAE

Lindernia dubia (Linnaeus) Pennell—(Figure 13). 2*n* = 18. Muddy, sandy or gravelly shores, meadows, marshes. [*L. dubia* var. *anagallidea* (Michaux) Cooperrider; *L. dubia* var. *inundata* (Pennell) Pennell; *L. dubia* var. *riparia* (Rafinesque) Fernald; *L. anagallidea* (Michaux) Pennell; *L. pyxidaria* misapplied]

LINNAEACEAE

KOLKWITZIA AMABILIS Graebner—Beautybush (Figure 13). 2*n* = 32. Riverbanks, thickets, roadsides, sandplain scrub, floodplain woods. From China.

Linnaea borealis Linnaeus var. *longiflora* Torrey—American Twinflower (Figure 13). 2*n* = 32. Moist, rich, cool woods, peaty knolls, swamps. [*L. borealis* var. *americana* (J. Forbes) Rehder]

MAZACEAE

MAZUS PUMILUS (N.L. Burman) Steenis—(Figure 13). 2*n* = 40. Waste places. From eastern Asia, India. [*M. JAPONICUS* (Thunberg) Kuntze]

MENYANTHACEAE

Menyanthes trifoliata Linnaeus—Buckbean (Figure 13). 2*n* = 54, (108). Bogs, pond margins, shallow water. [*M. trifoliata* var. *minor* Fernald]

Nymphoides cordata (Elliott) Fernald—(Figure 14). 2*n* = 36. Ponds, lakes, slow streams.

NYMPHOIDES PELTATA (S.G. Gmelin) Kuntze—Yellow Floating-heart (Figure 14). 2*n* = 54, 56. Ponds. From Eurasia. [*N. FLAVA* Druce -- illegitimate name]

OROBANCHACEAE

Agalinis decemloba (Greene) Pennell—(Figure 14). 2*n* = 26, 52. Fields, woodland openings, roadsides, usually in dry, sandy soil. [*A. acuta* Pennell; *Gerardia acuta* Pennell]

Agalinis maritima (Rafinesque) Rafinesque var. *maritima* (Figure 14). 2*n* = 28. Salt marshes. [*Gerardia maritima* (Rafinesque) Rafinesque var. *maritima*]

Agalinis neoscotica (Greene) Fernald (Figure 14). 2*n* = ? Damp sand or marshy mudflats near the sea. [*A. purpurea* (Linnaeus) Pennell var. *neoscotica* (Greene) B. Boivin; *Gerardia neoscotica* Greene]

Agalinis purpurea (Linnaeus) Pennell var. *purpurea* (Figure 14). 2*n* = 28. Swampy fields, meadows, salt marsh margins, dune hollows. [*Gerardia purpurea* Linnaeus]

Agalinis purpurea (Linnaeus) Pennell var. *parviflora* (Bentham) B. Boivin (Figure 14). 2*n* = 26, 28. Meadows, wet fields, swamps, shores, bogs, damp, open ground. [*A. paupercula* (A. Gray) Britton var. *paupercula*; *A. paupercula* var. *borealis* Pennell; *Gerardia paupercula* (A. Gray) Britton var. *paupercula*; *G. paupercula* var. *borealis* (Pennell) Deam; *G. purpurea* Linnaeus var. *parviflora* Bentham]

Agalinis tenuifolia (Vahl) Rafinesque (Figure 14). 2*n* = 28. Woodland openings, fields, thickets, roadsides, usually in dry soil. [*A. tenuifolia* var. *macrophylla* (Bentham) S.F. Blake; *A. tenuifolia* var. *parviflora* (Nuttall) Pennell; *Gerardia tenuifolia* Vahl var. *tenuifolia*; *G. tenuifolia* var. *macrophylla* Bentham; *G. tenuifolia* var. *parviflora* Nuttall]

— *Agalinis* hybrid

Agalinis purpurea (Linnaeus) Pennell var. *parviflora* (Bentham) B. Boivin × *A. tenuifolia* (Vahl) Rafinesque (Figure 14).

Aureolaria flava (Linnaeus) Farwell (Figure 15). 2*n* = 24. Dry, open, usually oak or oak-pine woods, roadsides. [*Gerardia flava* Linnaeus]

Aureolaria pedicularia (Linnaeus) Rafinesque *ex* Pennell (Figure 15). 2*n* = 28. Dry, open deciduous woods and clearings, roadsides, usually in sandy soil, typically parasitizing species of *Quercus*. [*A. pedicularia* var. *intercedens* Pennell; *Gerardia pedicularia* Linnaeus var. *pedicularia*; *G. pedicularia* var. *intercedens* (Pennell) Fernald]

Aureolaria virginica (Linnaeus) Pennell Downy False Foxglove (Figure 15). 2*n* = 26. Dry, open woods, usually pine and oak. [*Gerardia virginica* (Linnaeus) Britton, Sterns & Poggenburg]

Castilleja coccinea (Linnaeus) Sprengel Scarlet Painted-cup (Figure 15). 2*n* = 46, 48. Meadows, swamps.

Castilleja septentrionalis Lindley (Figure 15). 2*n* = 24. Rocky or peaty soil at high altitudes, gravelly or rocky river shores and banks.

Conopholis americana (Linnaeus) Wallroth Squawroot (Figure 15). 2*n* = 40. Rich woods, mostly under oaks, parasitic on tree roots.

Epifagus virginiana (Linnaeus) W.P.C. Barton Beechdrops (Figure 15). 2*n* = ? Under beech trees, parasitic on their roots.

Euphrasia disjuncta Fernald & Wiegand (Figure 15). 2*n* = 44. Streambanks, damp open soil.

EUPHRASIA MICRANTHA Reichenbach (Figure 15). 2*n* = 44. Rocky summits. From Europe.

Euphrasia nemorosa (Persoon) Wallroth (Figure 16). 2*n* = ? Fields, roadsides, woodland margins, clearings, ledges, sea bluffs. [*E. americana* Wettstein; *E. canadensis* misapplied; *E. officinalis* misapplied (in part)]

Euphrasia oakesii Wettstein (Figure 16). 2*n* = ? Wet crevices in alpine areas. [*E. williamsii* B.L. Robinson]

Euphrasia randii B.L. Robinson (Figure 16). 2*n* = ? Mossy banks above seashore, fields, seaside ledges, rocky turf near the sea. [*E. randii* var. *farlowii* B.L. Robinson; *E. randii* var. *reeksii* Fernald]

EUPHRASIA STRICTA J.P. Wollf *ex* J.F. Lehmann (Figure 16). 2*n* = 22, 44. Fields, roadsides, clearings. From Europe. [*E. RIGIDULA* Jordan; *E. OFFICINALIS* misapplied (in part)]

Euphrasia tetraquetra (Brébisson) Arrondeau (Figure 16). 2*n* = ? Fields, usually dry, roadsides, grassy slopes, meadows. [*E. canadensis* Townsend]

Melampyrum lineare Desrousseaux var. *lineare* American Cow-wheat (Figure 16). 2*n* = 18. Dry woods, grassy or rocky fields and clearings, roadsides, thickets of lowbush blueberries. [*M. lineare* var. *americanum* (Michaux) Beauverd]

Melampyrum lineare Desrousseaux var. *latifolium* W.P.C. Barton (Figure 16). 2*n* = ? Woods.

Melampyrum lineare Desrousseaux var. *pectinatum* (Pennell) Fernald (Figure 16). 2*n* = ? Dry, sandy pine woods or oak-scrub.

ODONTITES VULGARIS Moench Red Bartsia (Figure 16). 2*n* = 18, (20). Dry fields, roadsides, waste places. From Eurasia. [*O. SEROTINUS* misapplied; *O. VERNUS* (Bellardi) Dumortier subsp. *SEROTINUS* misapplied]

Orobanche uniflora Linnaeus One-flowered Cancer-root (Figure 17). 2*n* = 18. Damp woods and thickets, streambanks, parasitic on roots of various plants.

Pedicularis canadensis Linnaeus Wood Betony (Figure 17). 2*n* = 16. Woods, clearings, fields, meadows, roadsides, rocky shores. [*P. canadensis* var. *dobbsii* Fernald]

Pedicularis furbishiae S. Watson Furbish's Lousewort (Figure 17). 2*n* = ? Along rivers.

Pedicularis lanceolata Michaux Swamp Lousewort (Figure 17). 2*n* = 16. Wet woods, swamps, meadows, shores and other wet ground.

RHINANTHUS MAJOR Linnaeus (Figure 17). 2*n* = 22. Wet meadows. From Europe. [*R. ALECTOROLOPHUS* (Scopoli) Pollich]

Rhinanthus minor Linnaeus subsp. *minor* (Figure 17). 2*n* = 22. Fields, roadsides, thickets, clearings. [*R. crista-galli* misapplied; *R. crista-galli* Linnaeus var. *fallax* W.D.J. Koch *ex* E.F. Linton]

Rhinanthus minor Linnaeus subsp. *groenlandicus* (Chabert) Neuman (Figure 17). $2n = 22$. Turfy subalpine slopes. [*R. borealis* (Sterneck) Chabert]

Schwalbia americana Linnaeus—Chaffseed (Figure 17). $2n = 36$. Pine-oak woods, clearings, sandy fields.

PAULOWNIACEAE

PAULOWNIA TOMENTOSA (Thunberg) Steudel—Princess-tree (Figure 17). $2n = 40$. Waste places, roadsides, woodland margins. From China.

PEDALIACEAE

SESAMUM INDICUM Linnaeus—Sesame (Figure 18). $2n = (18), 26$. Waste places. Long cultivated, possibly from Africa or India. [*S. ORIENTALE* Linnaeus]

PHRYMACEAE

DIPLACUS BREVIPES (Bentham) G.L. Nesom—(Figure 18). $2n = 16$. Wool waste. From California and northwestern Mexico. [*MIMULUS BREVIPES* Bentham]

ERYTHRANTHE GUTTATA (de Candolle) G.L. Nesom (Figure 18). $2n = 28$. Wet ditches, springy places, riverbanks. From farther west. [*MIMULUS GUTTATUS* de Candolle]

ERYTHRANTHE MOSCHATA (Douglas *ex* Lindley) G.L. Nesom—Muskflower (Figure 18). $2n = 32$. Wet ditches, springy places, riverbanks. From farther north and west. [*MIMULUS MOSCHATUS* Douglas *ex* Lindley]

GLOSSOSTIGMA CLEISTANTHUM W.R. Barker—(Figure 18). $2n = 50$. Sandy, silty or gravelly pond and lake shores, occasionally intertidal shores. From Australia and New Zealand.

Mimulus alatus Aiton—(Figure 18). $2n = 22$. Muddy or marshy shores, meadows, alluvial soil.

Mimulus ringens Linnaeus var. *ringens*—(Figure 18). $2n = 16, 22, 24$. Muddy shores, swamp margins, meadows, marshy shores, wet woods. [*M. ringens* var. *minthoides* (Greene) A.L. Grant]

Mimulus ringens Linnaeus var. *colpophilus* Fernald (Figure 18). $2n = ?$ Estuaries, marshy or sandy river shores, river meadows.

Phryma leptostachya Linnaeus var. *leptostachya*—Lopseed (Figure 18). $2n = 28$. Rich, deciduous woods, usually moist.

PLANTAGINACEAE

ANTIRRHINUM MAJUS Linnaeus—Common Snapdragon (Figure 19). 2*n* = 16, 24, 32. Waste places. From the Mediterranean.

Callitriche hermaphroditica Linnaeus—(Figure 19). 2*n* = 6. Lakes, ponds, often calcareous.

Callitriche heterophylla Pursh var. *heterophylla*—(Figure 19). 2*n* = (10), 20. Ponds, pools, lakes, quiet water of streams, intertidal mudflats. [*C. anceps* Fernald]

Callitriche palustris Linnaeus—(Figure 19). 2*n* = (10), 20. Ponds, pools, lakes, quiet water of streams, springs. [*C. verna* Linnaeus]

CALLITRICHE STAGNALIS Scopoli—Common Water-starwort (Figure 19). 2*n* = 10, (18), (20). Streams, pools, ponds, lakes, springs. From Eurasia, northwestern Africa.

Callitriche terrestris Rafinesque—(Figure 19). 2*n* = 10. Woodland roads, paths and margins, in damp, shady soil. [*C. deflexa* A. Braun *ex* Hegelmaier var. *austini* (Engelmann *ex* A. Gray) Hegelmaier]

CHAENORHINUM MINUS (Linnaeus) Lange subsp. *MINUS*—(Figure 19). 2*n* = 14, 28. Waste places, roadsides, railroads. From Eurasia.

Chelone glabra Linnaeus—White Turtlehead (Figure 19). 2*n* = 28. Swamps, wet ditches, riverbanks, wet woods, thickets, and meadows, pond and lake shores, marshes. [*C. glabra* var. *dilatata* Fernald & Wiegand; *C. glabra* var. *elatior* Rafinesque]

CHELONE LYONII Pursh—Pink Turtlehead (Figure 19). 2*n* = 28. Swamps, stream banks, marsh margins. From farther south.

CHELONE OBLIQUA Linnaeus var. *OBLIQUA*—Red Turtlehead (Figure 20). 2*n* = 56, 84. Wet woods. From farther south.

Collinsia parviflora Lindley—(Figure 20). 2*n* = 14, 28. Base of slate cliff in dry ground.

CYMBALARIA MURALIS G. Gaertner, B. Meyer, & Scherbius—Kenilworth Ivy (Figure 20). 2*n* = 14. Stone walls, waste places, dry, rocky ground, railroads, river shores. From Europe.

DIGITALIS GRANDIFLORA Miller—Yellow Foxglove (Figure 20). 2*n* = 56. Fields, waste places, roadsides, open woods, thickets, woodland margins. From Eurasia. [*D. AMBIGUA* Murray]

DIGITALIS LAEVIGATA Waldstein & Kitaibel—(Figure 20). 2*n* = ca. 56. Woodland margins. From Balkan Europe.

DIGITALIS LANATA Ehrhart—Grecian Foxglove (Figure 20). 2*n* = 56. Fields, roadsides, waste places. From Eurasia.

DIGITALIS LUTEA Linnaeus—Straw Foxglove (Figure 20). 2*n* = 56. Roadsides, waste places. From Europe.

DIGITALIS PURPUREA Linnaeus — Common Foxglove (Figure 20). 2*n* = (48), 56. Waste places, roadsides, fields, woodland margins. From Europe, northwestern Africa.

Gratiola aurea Muhlenberg — Golden Hedge-Hyssop (Figure 20). 2*n* = 28. Muddy, sandy or gravelly shores, especially acid soil of ponds and lakes, occasionally river shores and meadows.

Gratiola neglecta Torrey — (Figure 21). 2*n* = 16. Muddy shores, roadside ditches, meadows, swamp and marsh margins.

GRATIOLA VIRGINIANA Linnaeus var. *VIRGINIANA* — (Figure 21). 2*n* = 16. Muddy roadsides and shores. From farther south and west.

Hippuris vulgaris Linnaeus — Mare's-tail (Figure 21). 2*n* = 32. Shallow, quiet waters of rivers, freshwater pools, ponds and lakes.

KICKXIA ELATINE (Linnaeus) Dumortier — (Figure 21). 2*n* = 36. Waste places, in dry, open clay. From Eurasia, northern Africa.

Limosella australis R. Brown — Welsh Mudwort (Figure 21). 2*n* = 20, 48. Tidal mud flats, occasionally muddy or sandy inland shores. [*L. subulata* E. Ives]

LINARIA BIPARTITA (Ventenat) Willdenow — (Figure 21). 2*n* = 12. Dry fields, waste places, roadsides. From Morocco. [Note: The name *L. BIPARTITA* has been misapplied to *L. INCARNATA* (Ventenat) Sprengel of southwestern Europe and Morocco.]

LINARIA DALMATICA (Linnaeus) Miller subsp. *DALMATICA* — Balkan Toadflax (Figure 21). 2*n* = 12. Waste places, roadsides, railroads, dunes, fields. From Balkan Europe, southwestern Asia.

LINARIA GENISTIFOLIA (Linnaeus) Miller subsp. *GENISTIFOLIA* — (Figure 21). 2*n* = 12. Roadsides, railroads. From Eurasia.

LINARIA MAROCCANA J.D. Hooker — Moroccan Toadflax (Figure 21). 2*n* = 12. Fields, meadows, woodland clearings, roadsides, waste places, rocky shores. From Morocco.

LINARIA REPENS (Linnaeus) Miller — Striped Toadflax (Figure 22). 2*n* = 12. Roadsides, railroads, waste places. From western Europe.

LINARIA SPARTEA (Linnaeus) Chazelles de Prizy — Ballast Toadflax (Figure 22). 2*n* = 12. Dry fields. From southwestern Europe.

LINARIA VULGARIS Miller — Butter-and-eggs (Figure 22). 2*n* = 12. Roadsides, railroads, dry fields, waste places. From Eurasia.

Littorella americana Fernald — Shore-grass (Figure 22). 2*n* = 12. Shores and margins of lakes and ponds. [*L. uniflora* misapplied]

MISOPATES ORONTIUM (Linnaeus) Rafinesque—Weasel's-snout (Figure 22). 2*n* = 16. Waste places, moist ditches. From Eurasia, northern and eastern Africa. [*ANTIRRHINUM ORONTIUM* Linnaeus]

Nuttallanthus canadensis (Linnaeus) D.A. Sutton—Old-field Toadflax (Figure 22). 2*n* = 12. Sandy soil, waste places. [*Linaria canadensis* (Linnaeus) Dumont de Courset]

PENSTEMON CALYCOSUS Small—(Figure 22). 2*n* = 96. Sandy soil in the open, fields, roadsides. From farther south and west.

PENSTEMON CANESCENS (Britton) Britton—(Figure 22). 2*n* = 16. Hillsides. From farther south.

PENSTEMON DIGITALIS Nuttall *ex* Sims—(Figure 22). 2*n* = 96. Moist banks and fields, meadows, clearings, roadsides. From farther south and west.

PENSTEMON GRANDIFLORUS Nuttall—(Figure 23). 2*n* = 16. Fields. From farther west.

Penstemon hirsutus (Linnaeus) Willdenow—(Figure 23). 2*n* = 16. Dry fields, woods and hillsides, often in rocky soil.

PENSTEMON LAEVIGATUS Aiton—(Figure 23). 2*n* = ? Fields, woods, meadows, rocky shores, sandy banks, roadsides. From farther south.

PENSTEMON PALLIDUS Small—(Figure 23). 2*n* = 16. Sandy fields, banks, usually dry, woodland clearings, roadsides. From farther west and south.

PENSTEMON TUBAEFLORUS Nuttall—(Figure 23). 2*n* = 32. Meadows, fields, open woods, roadsides. From farther west and south. [*P. TUBAEFLORUS* var. *ACHOREUS* Fernald]

PLANTAGO ARENARIA Waldstein & Kitaibel—(Figure 23). 2*n* = 12. Waste places, roadsides, railroads, fields. From Eurasia, northern Africa. [*P. INDICA* Linnaeus; *P. PSYLLIUM* Linnaeus -- rejected name]

Plantago aristata Michaux—Bracted Plantain (Figure 23). 2*n* = 20. Open, sterile or sandy, disturbed soil, gravel, roadsides, fields, waste places.

PLANTAGO CORONOPUS Linnaeus—Buck's-horn Plantain (Figure 23). 2*n* = 10, 20, 30. Waste places. From Eurasia, northern Africa.

PLANTAGO LANCEOLATA Linnaeus—Ribgrass (Figure 23). 2*n* = 12, (24). Fields, roadsides, waste places. From Eurasia, northern Africa. [*P. LANCEOLATA* var. *SPHAEROSTACHYA* Mertens & W.D.J. Koch; *P. ALTISSIMA* misapplied]

PLANTAGO MAJOR Linnaeus—Common Plantain (Figure 24). 2*n* = 12, (24), (32). Roadsides, waste places, disturbed soil. From Eurasia. [*P. MAJOR* var. *PILGERI* Domin; *P. MAJOR* var. *SCOPULORUM* Fries & Broberg; *P. INTERMEDIA* Gilibert]

Plantago maritima Linnaeus—Seaside plantain (Figure 24). 2*n* = 12, (24). Salt marshes, beaches, coastal rocks. [*P. maritima* var. *juncoides* (Lamarck) A. Gray; *P. juncoides* Lamarck var. *decipiens* (Barnéoud) Fernald; *P. juncoides* var. *glauca* (Hornemann) Fernald; *P. oliganthos* Roemer & Schultes var. *oliganthos*; *P. oliganthos* var. *fallax* Fernald]

PLANTAGO MEDIA Linnaeus—Hoary Plantain (Figure 24). 2*n* = 12, 24. Fields, roadsides, waste places. From Eurasia.

PLANTAGO PATAGONICA Jacquin (Figure 24). 2*n* = 20. Railroads, fields, waste places. From farther west, southern South America. [*P. PURSHII* Roemer & Schultes]

Plantago pusilla Nuttall (Figure 24). 2*n* = 12. Dry, sandy roadsides, fields, railroads and clearings, dry ledges.

Plantago rugelii Linnaeus (Figure 24). 2*n* = 24. Roadsides, wood roads, waste places, meadows, shores, fields.

Plantago virginica Linnaeus — Pale-seed Plantain (Figure 24). 2*n* = 24. Fields, ledges, open, gravelly, rocky or sandy soil, often dry.

PSEUDOLYSIMACHION SPURIUM (Linnaeus) Rauschert — Bastard Speedwell (Figure 24). 2*n* = ? Waste places, meadows. From central Asia. [*VERONICA SPURIA* Linnaeus]

VERONICA AGRESTIS Linnaeus — Field Speedwell (Figure 24). 2*n* = 14, 28. Fields, roadsides, waste places. From Europe, northern Africa.

Veronica americana Schweinitz *ex* Bentham — American Brooklime (Figure 25). 2*n* = 36. Springheads, brooksides, streambanks, swamps, pool margins.

VERONICA ANGALLIS-AQUATICA Linnaeus — Water Speedwell (Figure 25). 2*n* = (18), 36. Wet ditches, springs, brooksides, shores, swamps. From Eurasia, Africa, southern and western South America. [*V. CATENATA* misapplied; *V. COMOSA* misapplied]

VERONICA ARVENSIS Linnaeus — Corn Speedwell (Figure 25). 2*n* = 16. Open, waste places, ledges, fields, open woods, roadsides. From Eurasia, northern Africa.

VERONICA BECCABUNGA Linnaeus — European Brooklime (Figure 25). 2*n* = 18, 36. Wet ditches, freshwater shores, moist woods. From Eurasia, northern Africa.

VERONICA CHAMAEDRYS Linnaeus — Germander Speedwell (Figure 25). 2*n* = (16), 32. Fields, thickets, woodland margins, roadsides, waste places. From Eurasia.

VERONICA FILIFORMIS Smith — Creeping Speedwell (Figure 25). 2*n* = 14. Waste places. From the Caucasus.

VERONICA LONGIFOLIA Linnaeus — Garden Speedwell (Figure 25). 2*n* = 34, (36), (64), 68. Roadsides, thickets, fields, waste places. From Eurasia.

Veronica officinalis Linnaeus var. *officinalis* — Common Speedwell (Figure 25). 2*n* = 18, (34), 36. Open woods, clearings, fields, hills, usually in dry soil.

Veronica peregrina Linnaeus — Purslane Speedwell (Figure 25). 2*n* = 52. Waste places, roadsides, fields, meadows, in the open, usually in moist soil. [*V. peregrina* var. *xalapensis* (Kunth) Pennell]

VERONICA PERSICA Poiret — Bird's-eye Speedwell (Figure 26). 2*n* = 28. Waste places, roadsides. [*V. TOURNEFORTII* misapplied]

Veronica scutellata Linnaeus — Marsh Speedwell (Figure 26). 2*n* = 18. Swamps, meadows, shores, other wet places.

Veronica serpyllifolia Linnaeus — Thyme-leaved Speedwell (Figure 26). 2*n* = 14, (28). Fields, meadows, roadsides, damp, open woods, clearings, springy places, brooksides, shores, swamps. Native in northern New England, naturalized elsewhere in New England (from Eurasia, northwestern Africa). [*V. serpyllifolia* var. *humifusa* (Dickson) Vahl; *V. tenella* Allioni]

VERONICA TEUCRIUM Linnaeus — (Figure 26). 2*n* = 64. Roadsides, fields. From Eurasia. [*V. AUSTRIACA* Linnaeus subsp. *TEUCRIUM* (Linnaeus) D.A. Webb; *V. LATIFOLIA* Linnaeus -- rejected name]

VERONICA VERNA Linnaeus — Spring Speedwell (Figure 26). 2*n* = 16. Railroad ballast. From Eurasia, northwestern Africa.

Veronica wormskjoldii Roemer & Schultes subsp. *wormskjoldii* — American Alpine Speedwell (Figure 26). 2*n* = 18, 36. Alpine rills, ravines, moss and rocks. [*V. alpina* Linnaeus var. *unalaschcensis* Chamisso & Schlechtendal]

Veronicastrum virginicum (Linnaeus) Farwell — Culver's-root (Figure 26). 2*n* = 34. Rich woods, meadows, thickets, fields, roadsides.

RUBIACEAE

ASPERULA ARVENSIS Linnaeus — Blue Woodruff (Figure 26). 2*n* = 22. Waste places, roadsides, fields. From Eurasia. [*GALIUM ARVENSE* (Linnaeus) F. Hermann]

Cephalanthus occidentalis Linnaeus — Buttonbush (Figure 26). 2*n* = 44. Muddy freshwater shores, swamps, bogs, marshes, pond margins.

Diodella teres (Walter) Small — Poor-joe (Figure 27). 2*n* = 28. Dry, sandy soil, beaches, roadsides, waste places. [*Diodia teres* Walter]

Galium aparine Linnaeus — Cleavers (Figure 27). 2*n* = 64, 66. Open, rich woods, thickets, swamps, waste places, damp ground, usually in shade.

Galium asprellum Michaux — Rough Bedstraw (Figure 27). 2*n* = ? Wet thickets and woods, meadows, low ground, roadside ditches.

Galium boreale Linnaeus — Northern Bedstraw (Figure 27). 2*n* = (22), 44, 66. Fields, meadows, shores, streambanks, moist, rocky woods, roadsides. [*G. boreale* var. *hyssopifolium* (Hoffmann) de Candolle; *G. boreale* var. *intermedium* de Candolle]

Galium circaezans Michaux var. *circaezans* — Licorice Bedstraw (Figure 27). 2*n* = 22. Rich, often rocky, woods, wooded ledges and talus slopes.

Galium circaezans Michaux var. *hypomalacum* Fernald — (Figure 27). 2*n* = ? Rich, often rocky, woods, wooded ledges and talus slopes.

GALIUM CONCINNUM Torrey & A. Gray—(Figure 27). 2*n* = ? Fields. From farther west.

GALIUM GLAUCUM Linnaeus—(Figure 27). 2*n* = 22, 44. Fields. From Eurasia.

Galium kamtschaticum Steller *ex* Schultes & Schultes (son)—(Figure 27). 2*n* = 22, 44. Mossy woods, brooksides, thickets, usually in mountainous areas.

Galium labradoricum (Wiegand) Wiegand—(Figure 28). 2*n* = 24. Swamps, bogs, mossy thickets, often with *Thuja occidentalis*.

Galium lanceolatum (Torrey) Torrey—(Figure 28). 2*n* = ? Dry, rich woods and thickets, often rocky.

GALIUM MOLLUGO Linnaeus—False Baby's-breath (Figure 28). 2*n* = 22, 44. Roadsides, fields, waste places. From Eurasia, northern Africa. [*G. ALBUM* Miller; *G. ERECTUM* Hudson]

Galium obtusum Bigelow subsp. *obtusum*—(Figure 28). 2*n* = 48. Meadows, marshes, low, moist woods, swampy thickets, shores. [*G. obtusum* var. *ramosum* Gleason]

GALIUM ODORATUM (Linnaeus) Scopoli—Sweet Woodruff (Figure 28). 2*n* = (22), 44, (66). Springs, meadows, woods, waste places. From Eurasia. [*ASPERULA ODORATA* Linnaeus]

Galium palustre Linnaeus—(Figure 28). 2*n* = 24, 48, 96. Meadows, swamps, low, moist woods, wet thickets, springs, streambanks, pond shores, roadside ditches.

GALIUM PARISIENSE Linnaeus—Wall Bedstraw (Figure 28). 2*n* = (22), 44, (66). Swales, ditches. From Europe.

Galium pilosum Aiton var. *pilosum*—(Figure 28). 2*n* = 22. Dry, open woods.

GALIUM SYLVATICUM Linnaeus—Scotch-mist (Figure 28). 2*n* = 22. Thicket borders, fields, roadsides, ledges, waste areas. From Europe.

Galium tinctorium Linnaeus—(Figure 29). 2*n* = ? Swamps, moist places. [*G. tinctorium* var. *floridanum* Wiegand]

GALIUM TRICORNUTUM Dandy—Corn Cleavers (Figure 29). 2*n* = (22), 44. Waste places. From Eurasia. [*G. tricorne* Stokes]

Galium trifidum Linnaeus subsp. *trifidum*—(Figure 29). 2*n* = 24. Bogs, swamps, shores, meadows, wet roadsides.

Galium trifidum Linnaeus subsp. *brevipes* (Fernald & Wiegand) Á. Löve & D. Löve—(Figure 29). 2*n* = 24. Swamps, bogs, muddy river flats, shores, roadside swales, often in calcareous soil. [*G. brevipes* Fernald & Wiegand]

Galium trifidum Linnaeus subsp. *halophilum* (Fernald & Wiegand) Puff—(Figure 29). 2*n* = ? Brackish or saline shores, salt marshes.

Galium trifidum Linnaeus subsp. *subbiflorum* (Wiegand) Puff—(Figure 29). 2*n* = ? Meadows, bogs, sandy alluvium, waste places. [*G. tinctorium* Linnaeus var. *subbiflorum* (Wiegand) Fernald]

Galium triflorum Michaux — Sweet-scented Bedstraw (Figure 29). 2*n* = 44, 66. Woods, usually moist, swamps, bogs. [*G. triflorum* var. *asprelliforme* Fernald]

GALIUM VERUM Linnaeus var. *VERUM* — Yellow Bedstraw (Figure 29). 2*n* = 22, 44, (66). Dry fields, roadsides, waste places. From Eurasia, northwestern Africa.

GALIUM VERUM Linnaeus var. *WIRTGENII* (F.W. Schultz) Nyman — (Figure 29). 2*n* = 22. Fields, meadows, roadsides, waste places. [*G. WIRTGENII* F.W. Schultz]

— *Galium* hybrid —

GALIUM × *POMERANICUM* Retzius — (Figure 30). [*G. MOLLUGO* Linnaeus × *G. VERUM* Linnaeus var. *VERUM*; *G.* × *OCHROLEUCUM* Wolf *ex* Schweigger (*pro species*)]

Houstonia caerulea Linnaeus — Bluets (Figure 30). 2*n* = 16, 32, 48. Fields, usually moist, meadows, open woods, streambanks, swamps, roadsides. [*H. caerulea* var. *faxonorum* Pease & A.H. Moore; *Hedyotis caerulea* (Linnaeus) Hooker]

Houstonia longifolia Gaertner — (Figure 30). 2*n* = 12, 24. Dry, open woods, hillsides, rocky or gravelly soil. [*Hedyotis longifolia* (Gaertner) Hooker -- illegitimate name]

Houstonia purpurea Linnaeus var. *calycosa* A. Gray — (Figure 30). 2*n* = ? Dry fields, open woods, slopes. [*H. lanceolata* (Poiret) Britton; *Hedyotis lanceolata* Poiret; *H. purpurea* (Linnaeus) Torrey & A. Gray var. *calycosa* (A. Gray) Fosberg]

Mitchella repens Linnaeus — Partridge-berry (Figure 30). 2*n* = 22. Woods.

SHERARDIA ARVENSIS Linnaeus — Field-Madder (Figure 30). 2*n* = 22. Fields, waste places. From Eurasia. [*GALIUM SHERARDIA* E.H.L. Krause]

SCROPHULARIACEAE

BUDDLEJA DAVIDII Franchet — Orange-eye Butterfly-bush (Figure 30). 2*n* = 76. Woodland margins, dry banks, roadsides, waste places. From China.

Scrophularia lanceolata Pursh — (Figure 30). 2*n* = 96. Fields, thickets, woodland margins, open woods, roadsides.

Scrophularia marilandica Linnaeus — Carpenter's-square (Figure 30). 2*n* = ca. 86. Woods, thickets, roadsides, streambanks.

SCROPHULARIA NODOSA Linnaeus — European Figwort (Figure 31). 2*n* = 36. Thickets, roadsides, waste places. From Eurasia.

VERBASCUM BLATTARIA Linnaeus — Moth Mullein (Figure 31). 2*n* = (18), 30, (32). Waste places, roadsides, fields, open woods. From Eurasia, northwestern Africa.

VERBASCUM DENSIFLORUM Bertoloni — (Figure 31). 2*n* = 30, 36. Railroads, roadsides, waste places. From Europe, the Caucasus.

VERBASCUM LYCHNITIS Linnaeus subsp. *LYCHNITIS*—White Mullein (Figure 31). 2*n* = 32, 34. Roadsides, fields, waste places, wool waste. From Eurasia.

VERBASCUM NIGRUM Linnaeus—Black Mullein (Figure 31). 2*n* = 30. Roadsides, waste places. From Eurasia.

VERBASCUM PHLOMOIDES Linnaeus Orange Mullein (Figure 31). 2*n* 32, 34. Roadsides, railroads, fields, waste places. From Eurasia.

VERBASCUM THAPSUS Linnaeus subsp. *THAPSUS*—Common Mullein (Figure 31). 2*n* (30), (32), (34), 36. Roadsides, fields, rocky banks, waste places. From Eurasia.

— *Verbascum* hybrid —

VERBASCUM LYCHNITIS Linnaeus subsp. *LYCHNITIS* × *V. THAPSUS* Linnaeus subsp. *THAPSUS* (Figure 31).

VALERIANACEAE

VALERIANA OFFICINALIS Linnaeus—Garden-Heliotrope (Figure 31). 2*n* = 14, 28, 56. Roadsides, thickets, woodland margins, waste places. From Eurasia.

Valeriana sitchensis Bongard subsp. *uliginosa* (Torrey & A. Gray) F. G. Meyer—(Figure 32). 2*n* = ? Calcareous swamps and bogs, usually with *Thuja occidentalis*. [*V. uliginosa* (Torrey & A. Gray) Rydberg *ex* Britton]

VALERIANELLA LOCUSTA (Linnaeus) Laterrade—Lamb's-lettuce (Figure 32). 2*n* = 16. Waste places, roadsides. From Eurasia, northwestern Africa. [*V. OLITORIA* (Linnaeus) Pollich]

Valerianella radiata (Linnaeus) Dufresne—(Figure 32). 2*n* = ? Riverbanks, moist fields, low ground. [*V. radiata* var. *fernaldii* Dyal]

Valerianella umbilicata (Sullivant) Alphonso Wood—(Figure 32). 2*n* = ? Damp, open places. [*V. intermedia* Dyal]

ACKNOWLEDGEMENTS

We thank the curators and directors of the herbaria of the New England Botanical Club, the Harvard University Herbaria, the University of Massachusetts, and the University of Vermont for allowing access to their collections. For the University of Maine, University of Connecticut and Yale University herbaria we used their exceptional online databases of specimens. We are grateful to Roberta Lombardi for facilitating access to the University of Massachusetts (Amherst) herbarium, to the notebooks of Harry E. Ahles, to certain database files of herbarium records and for answering our requests for information after our visit. James Hinds generously checked information on voucher specimens at the University of Maine (Orono). We thank Andrew Mckenna-Foster of the Maria Mitchell Association for providing the latest database file of that organization's herbarium records. The following persons also checked certain records for us at their respective institutions: Janet Sullivan, Robert Capers, Patrick Sweeney, Craig D. Layne, Elizabeth Allen, Ian Medeiros, Misha Cetner and Karoline Oldham. John T. Kartesz and Misako Nishino very kindly provided the latest draft

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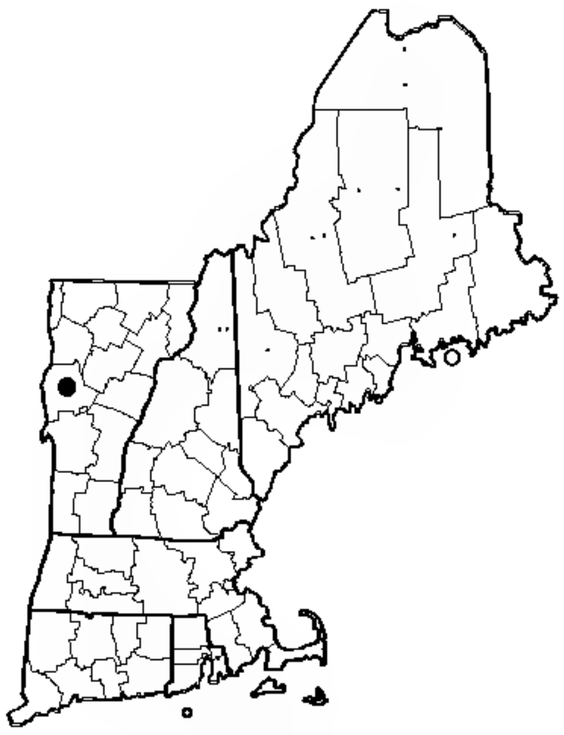
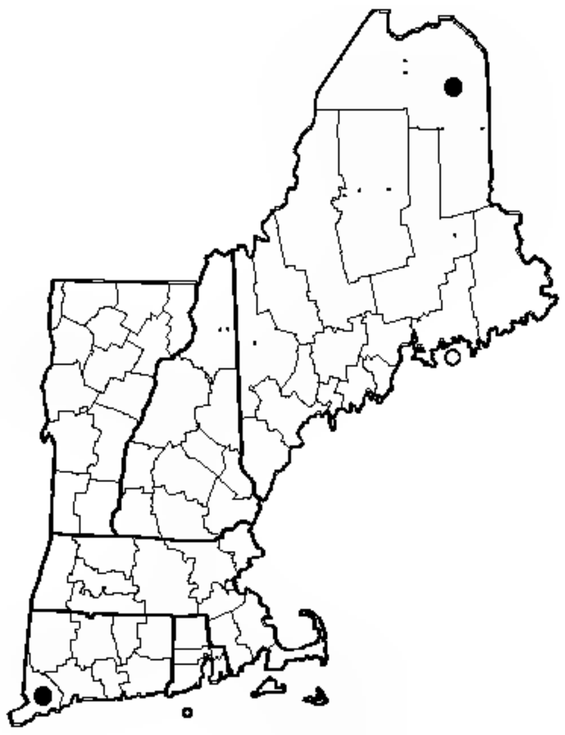
Figure 1 Key map for counties of the New England states (and Mt Desert Island, Maine, Block Island, Rhode Island, arbitrary divisions of larger Maine counties and of Coos County, New Hampshire)



Justicia americana



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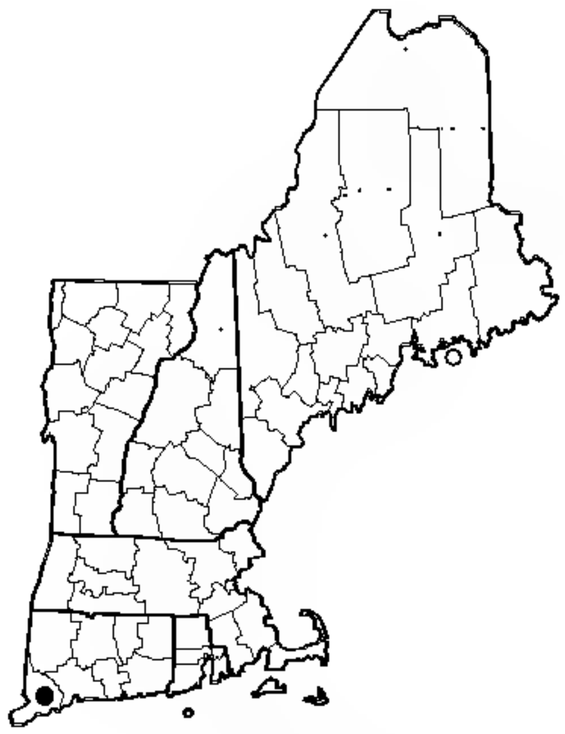

SAMBUCUS NIGRA
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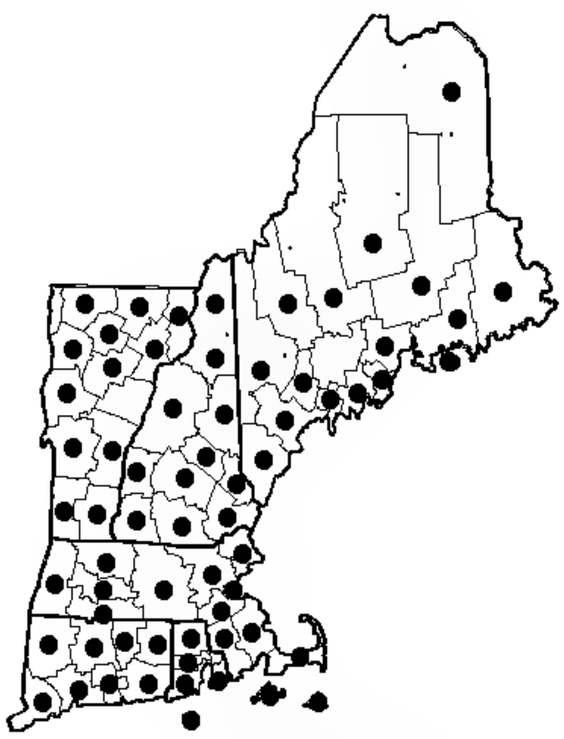

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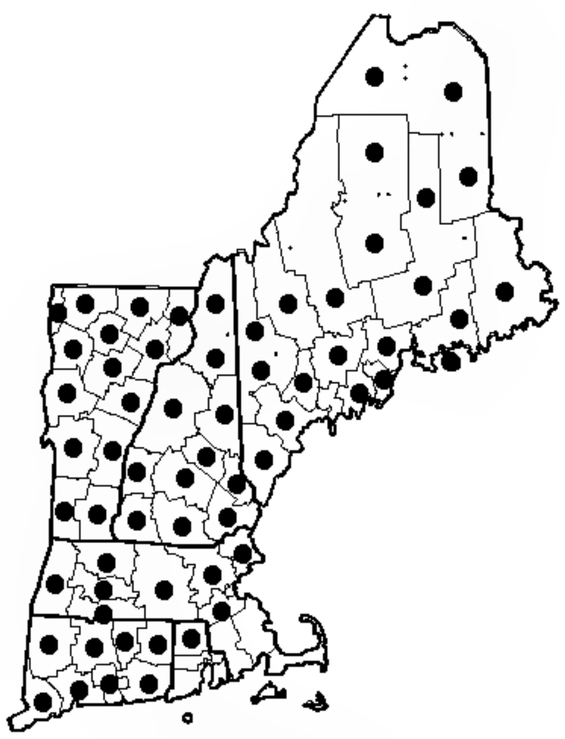

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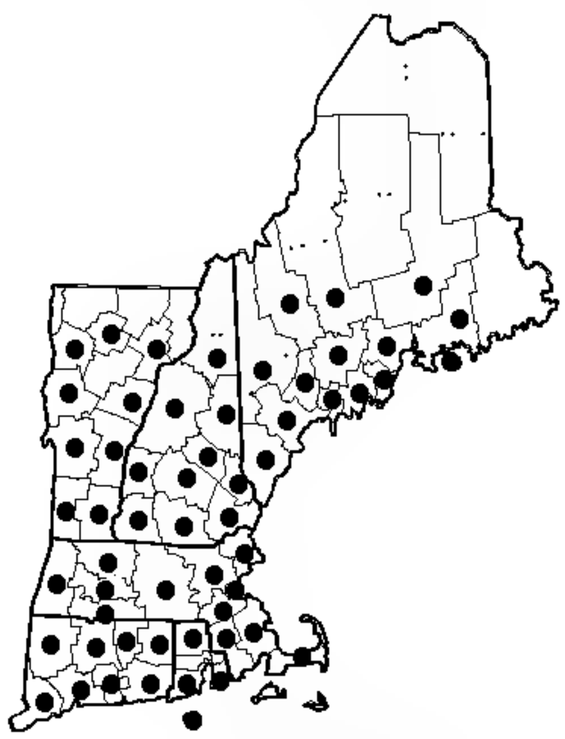
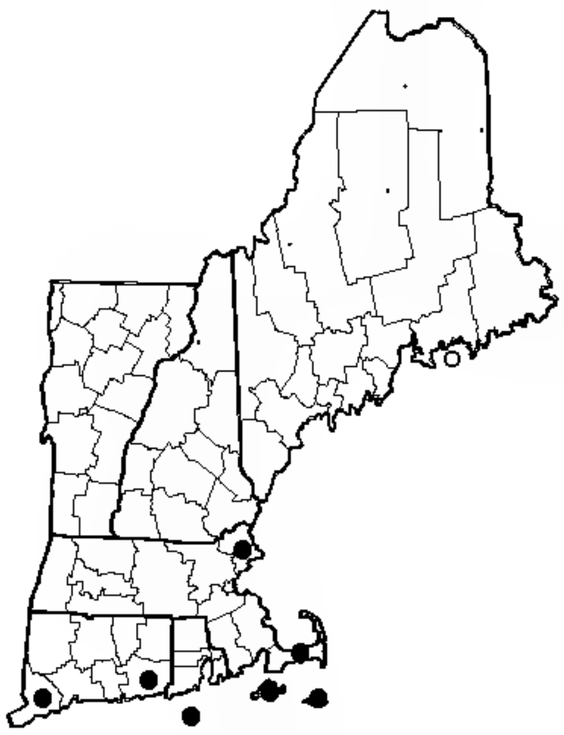


Viburnum acerifolium



Viburnum dentatum
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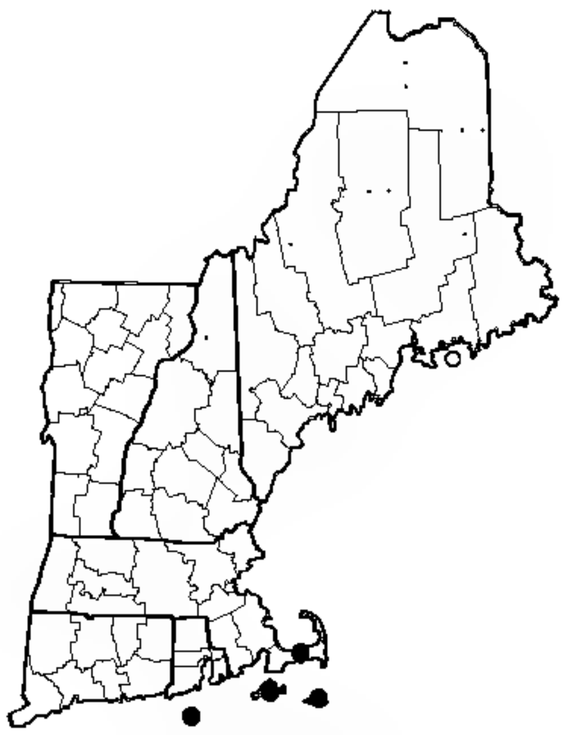

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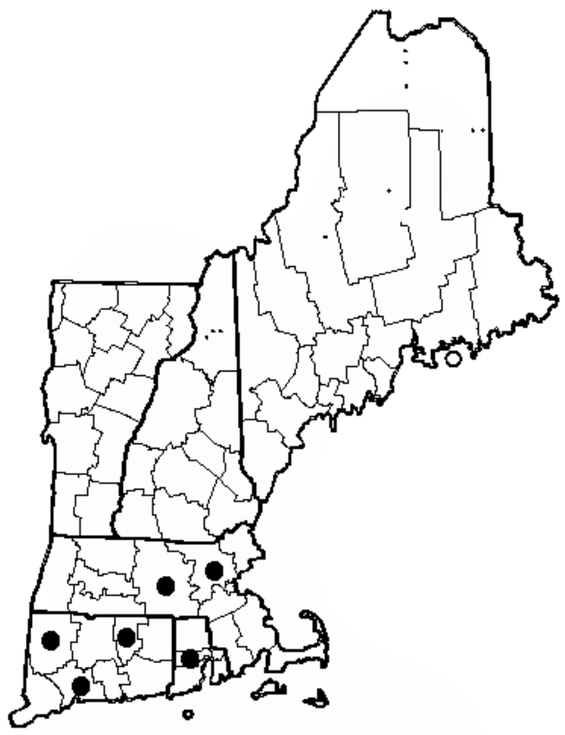
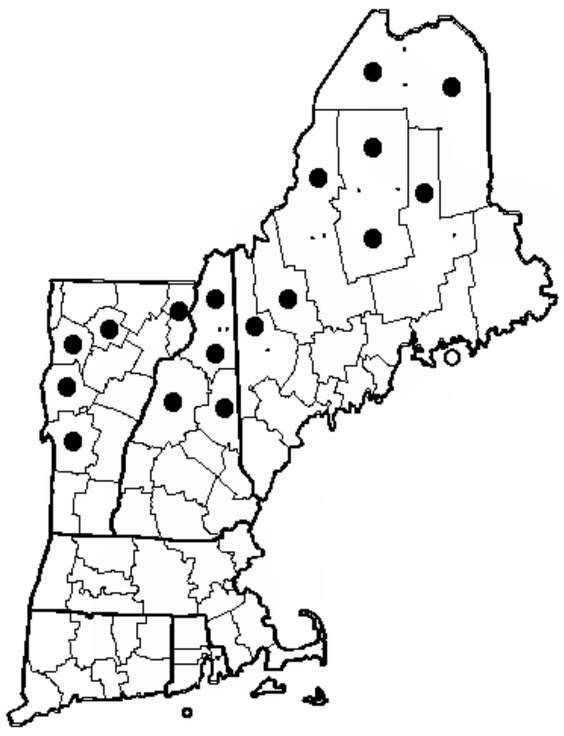
var *venosum*

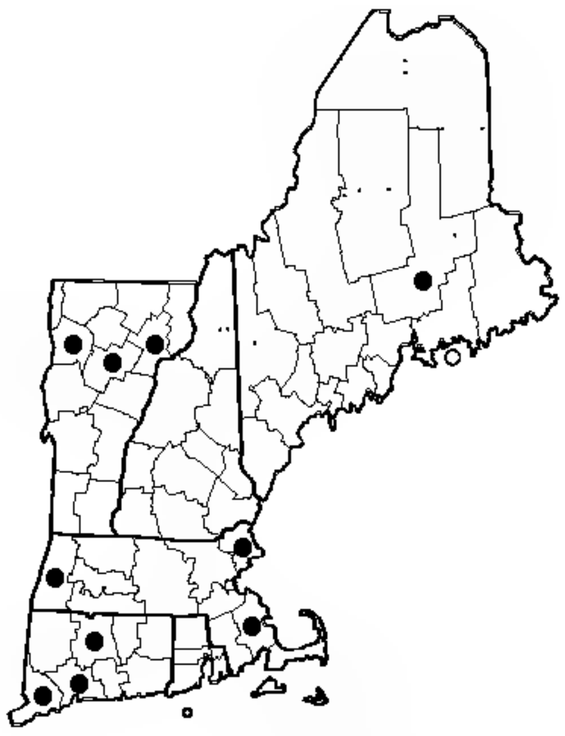


VIBURNUM DILATATUM

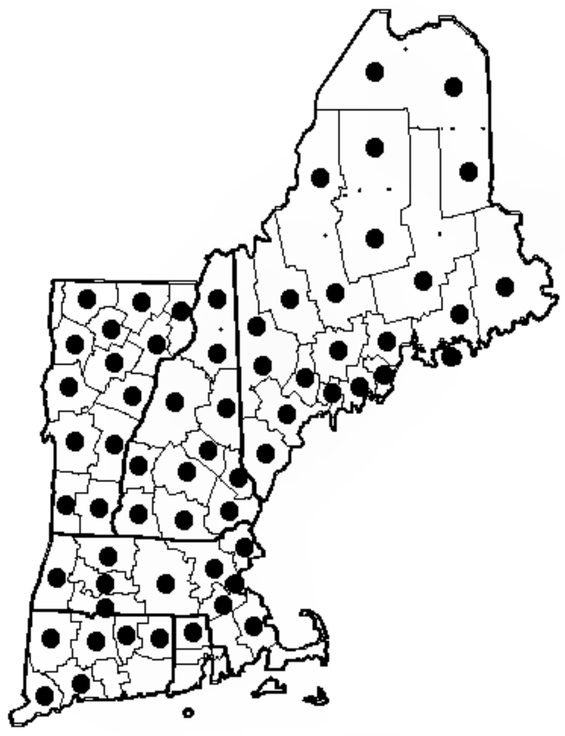
Figure 2 Distribution maps



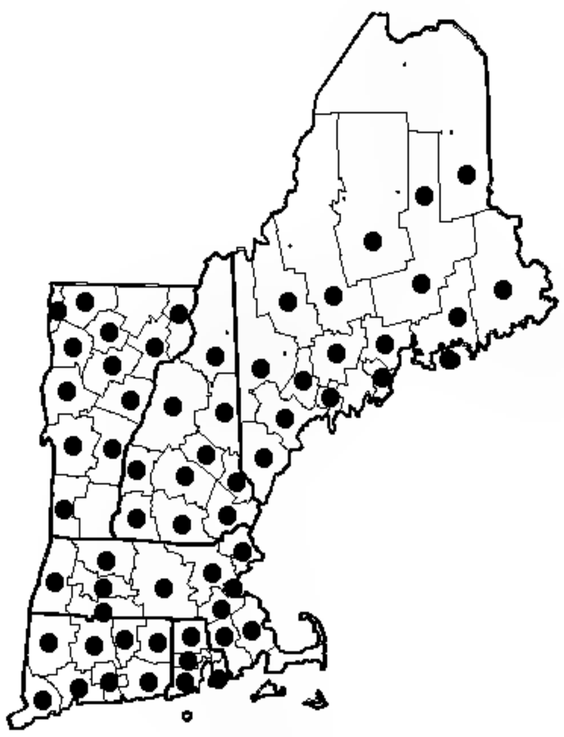
Viburnum edule



VIBURNUM LANTANA



Viburnum lantanoides



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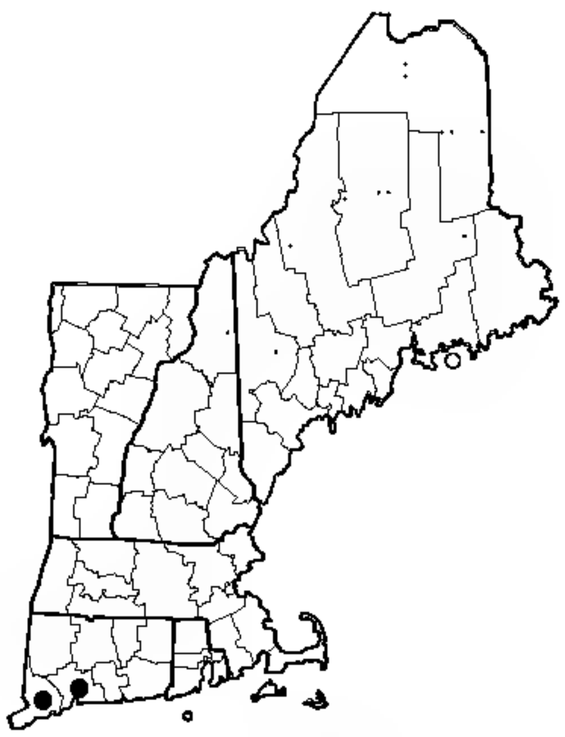
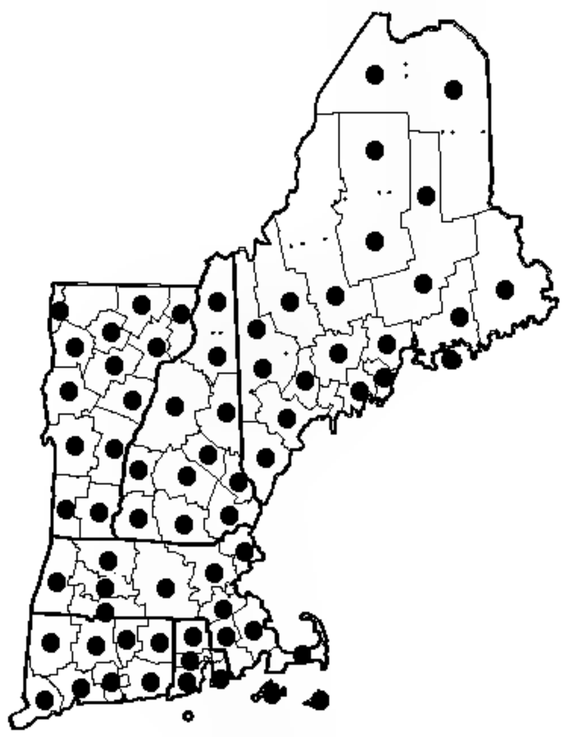


Viburnum nudum
var *nudum*



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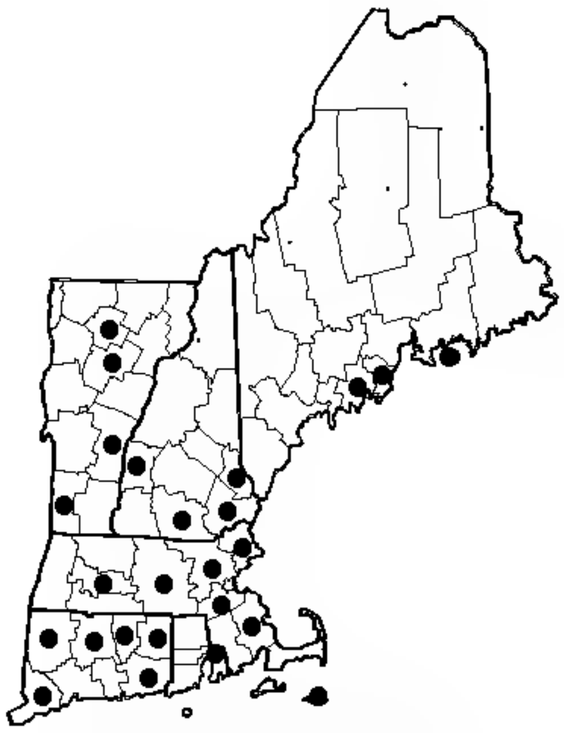
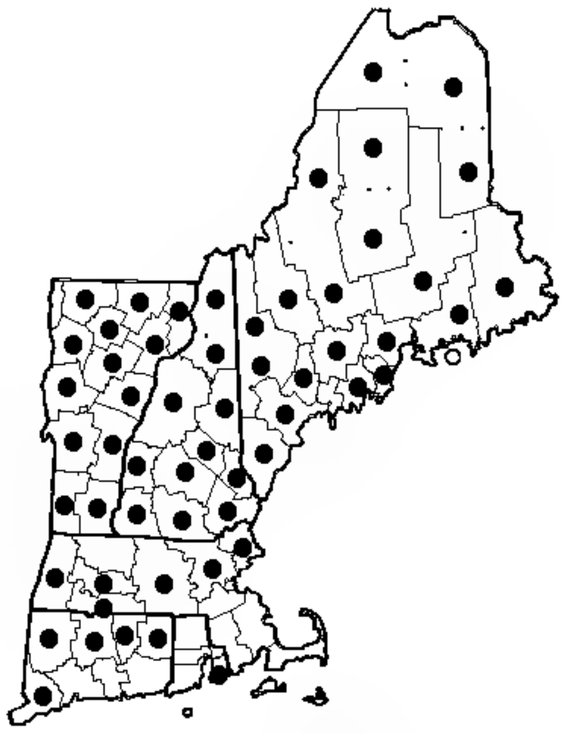
var *cassinoides*



VIBURNUM OPULUS
var *OPULUS*



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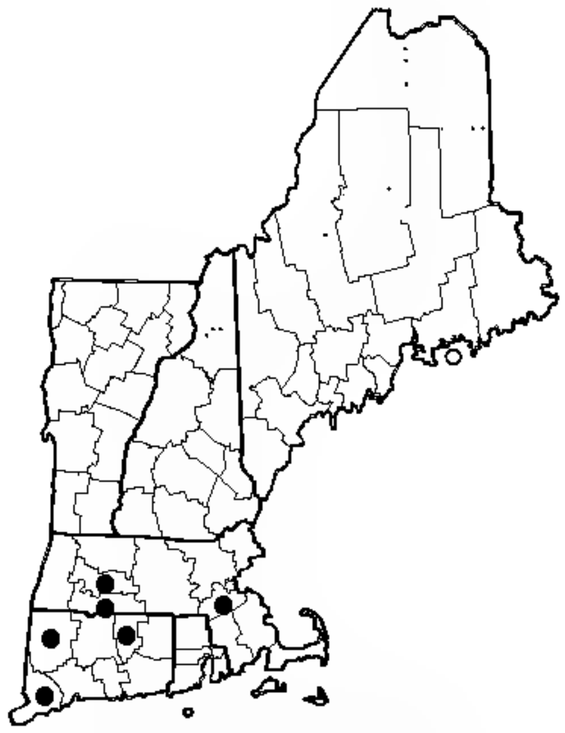
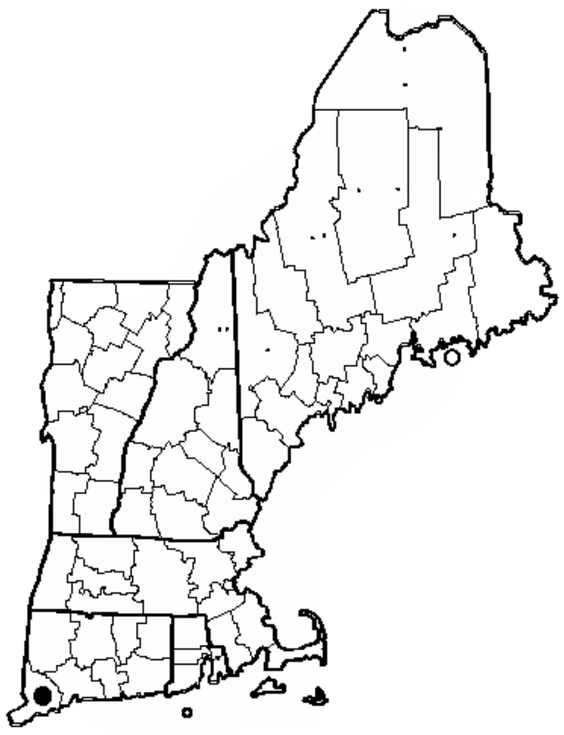


VIBURNUM PLICATUM

Figure 3 Distribution maps



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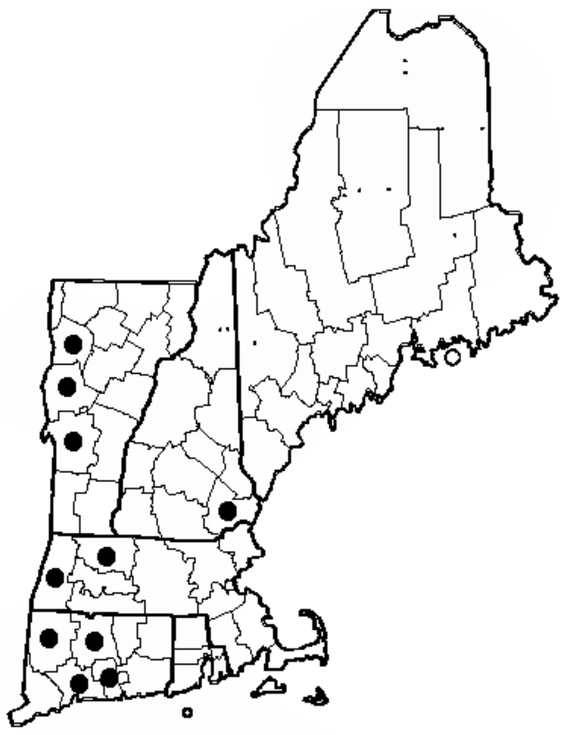
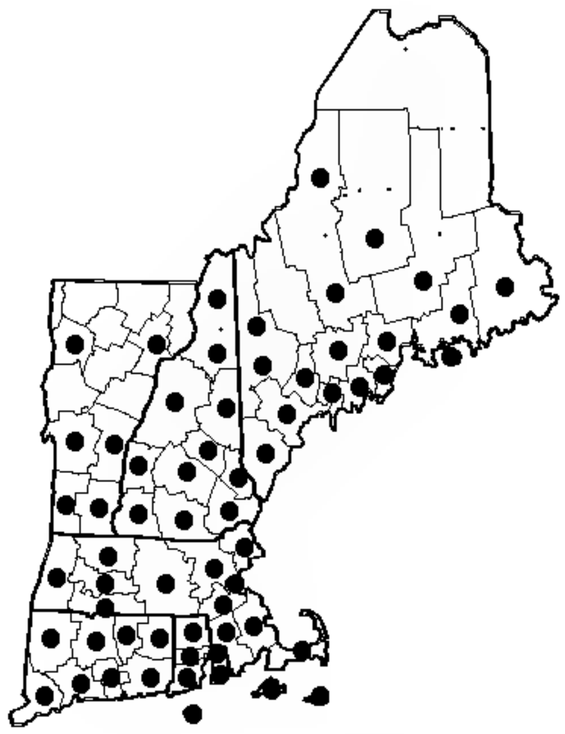


Viburnum rafinesqueanum
var *rafinesqueanum*



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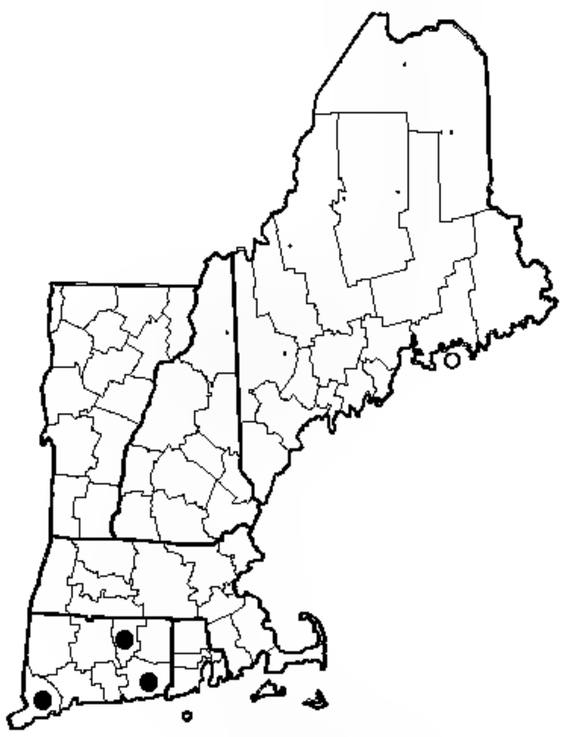

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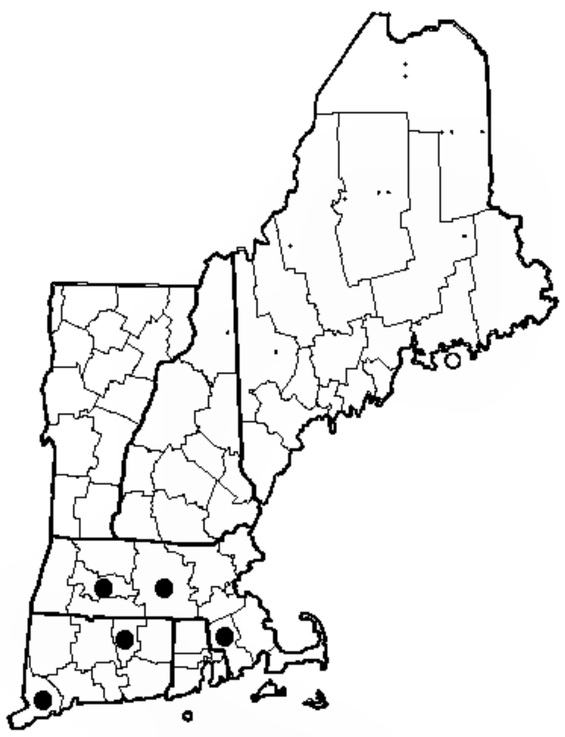

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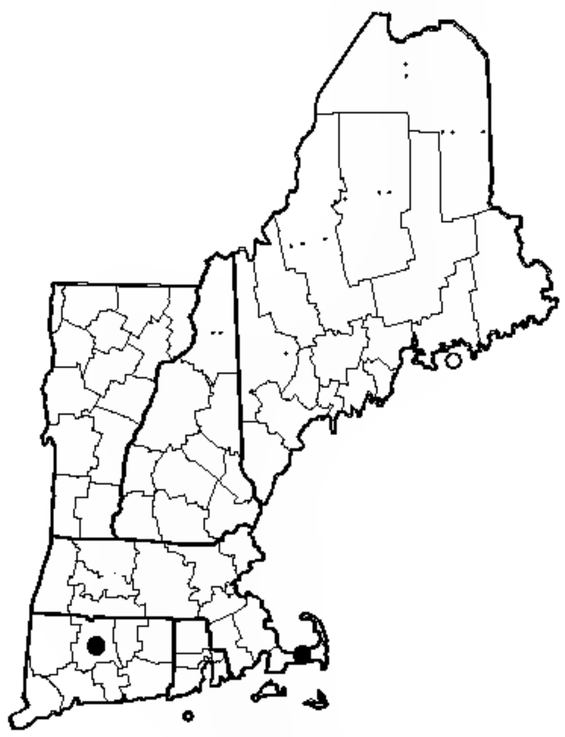

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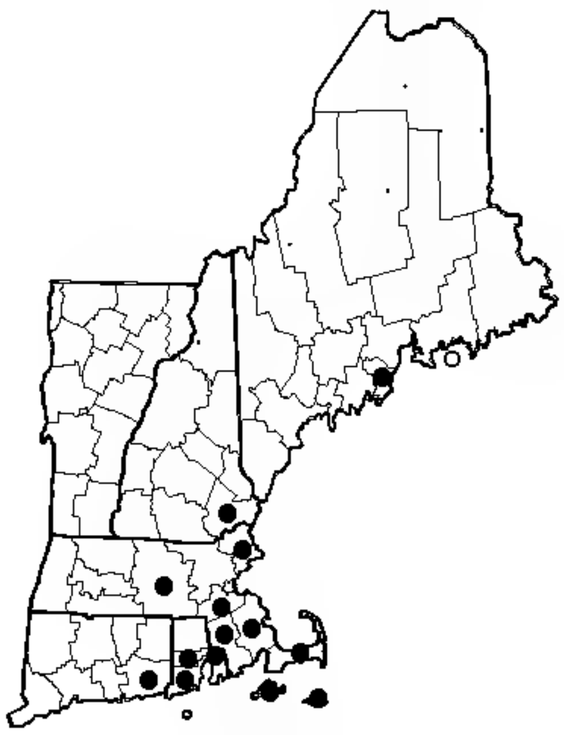
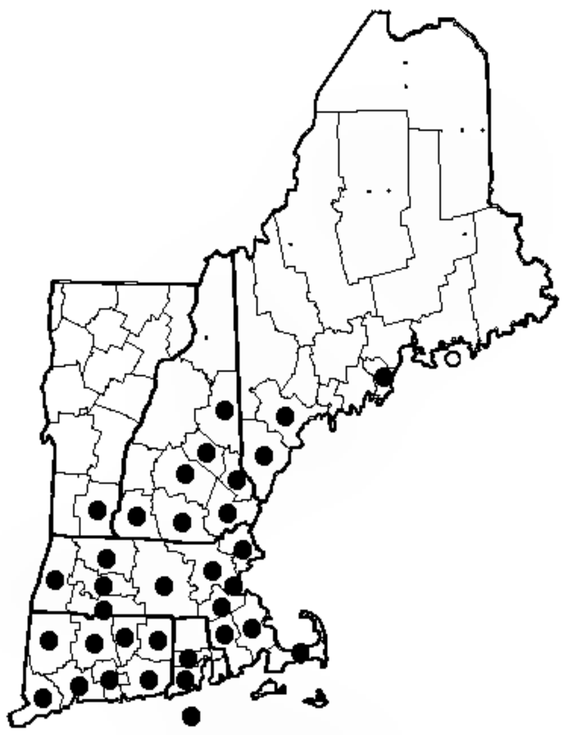


Ilex glabra



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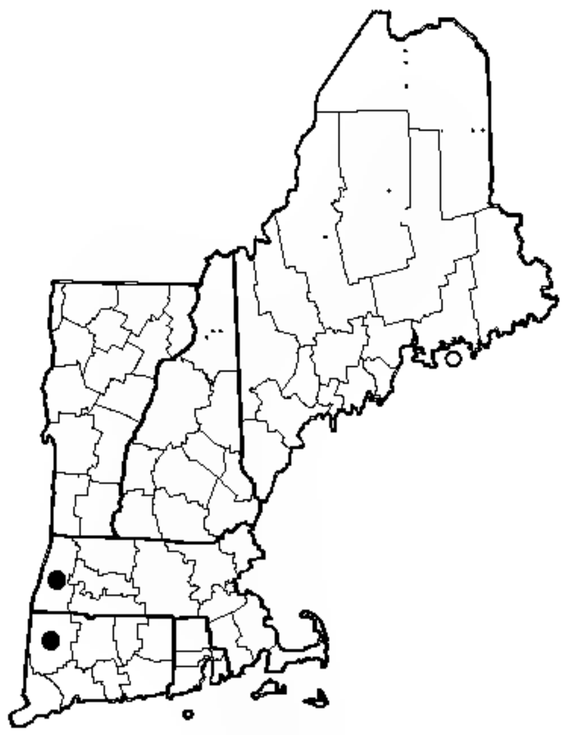
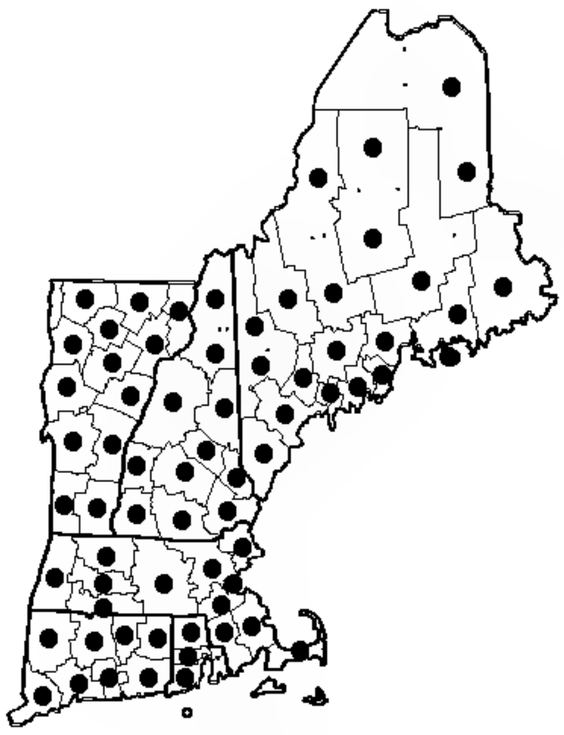


Ilex montana

Figure 4 Distribution maps



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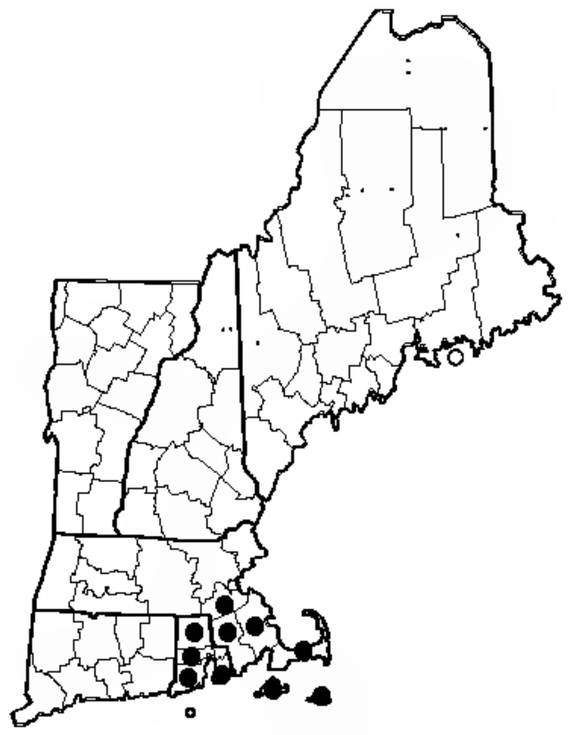
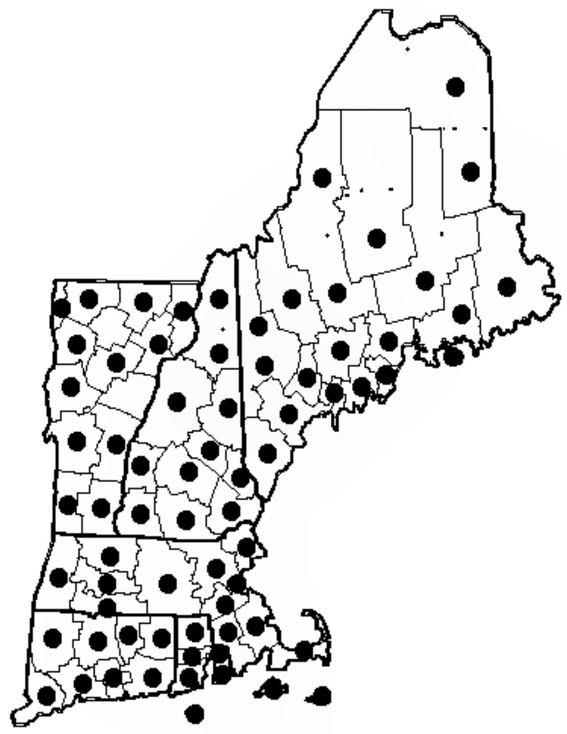
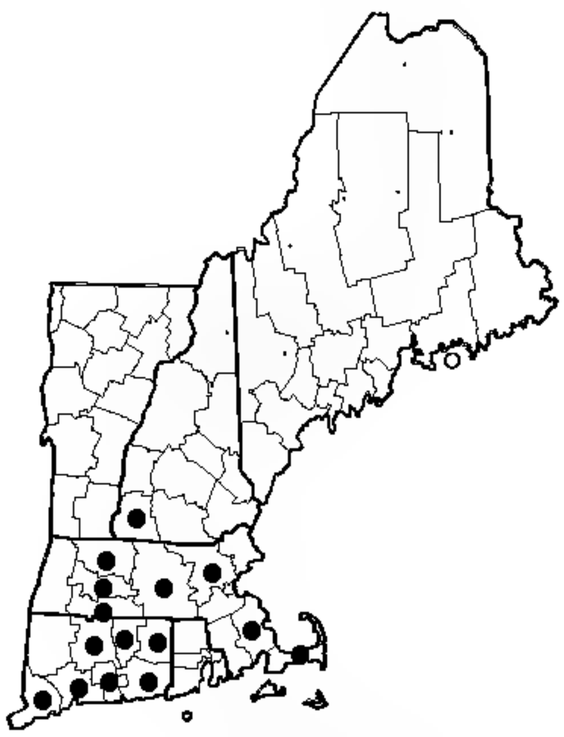


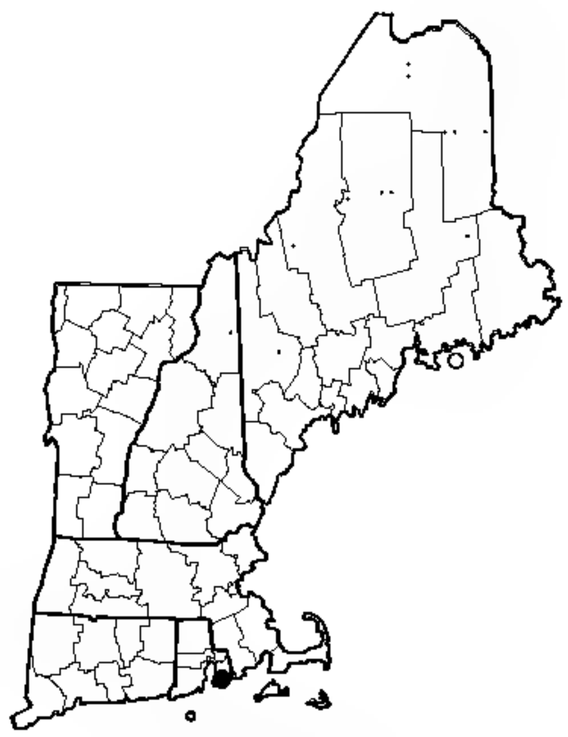
Ilex opaca
var *opaca*



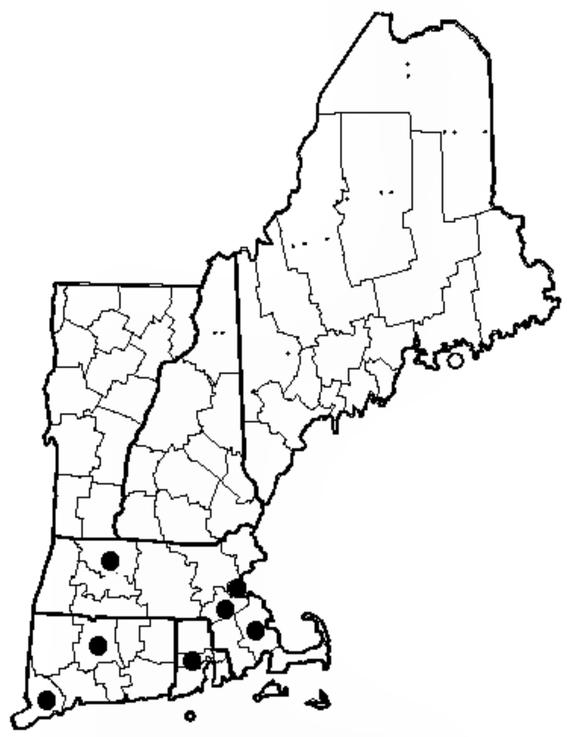
Ilex verticillata



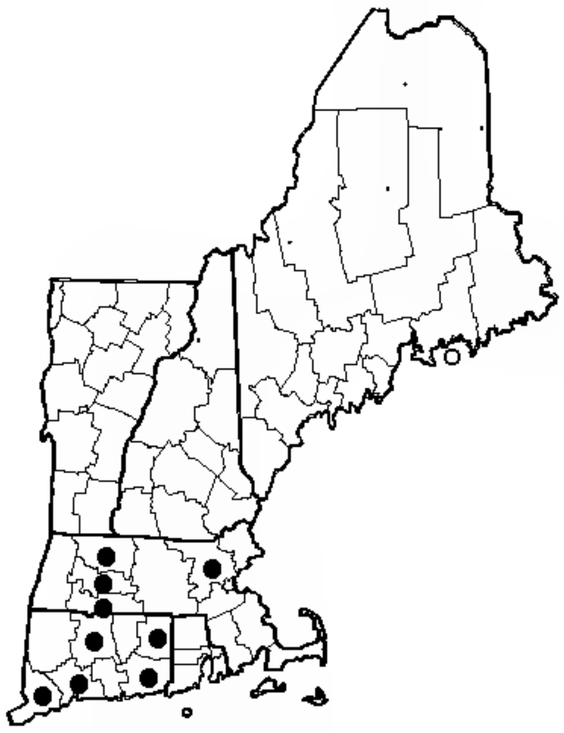
CAMPSIS RADICANS



CAMPSIS X *TAGLIABUANA*



CATALPA BIGNONIOIDES



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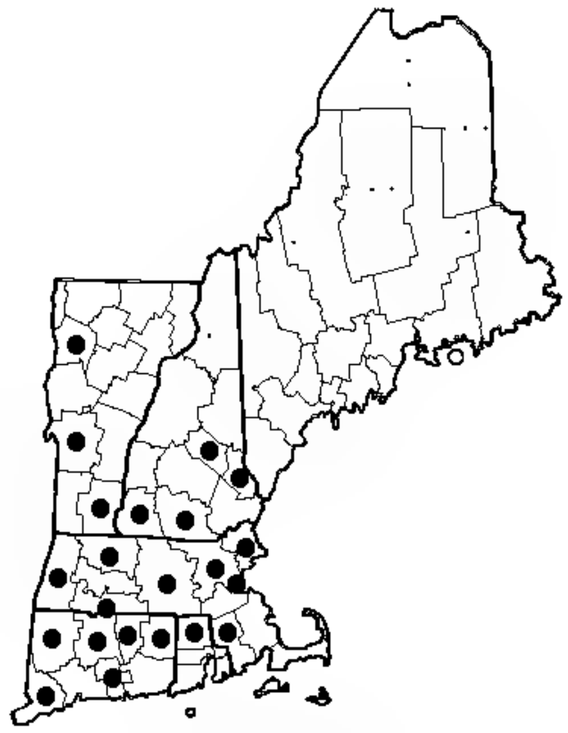
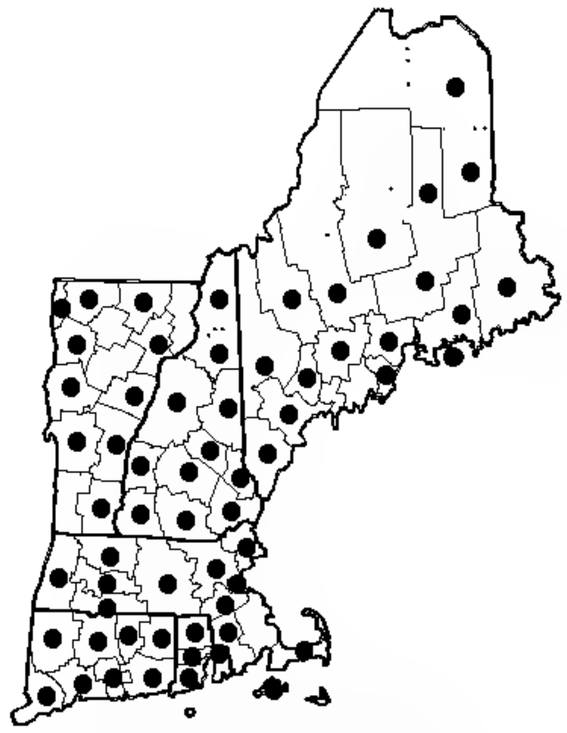
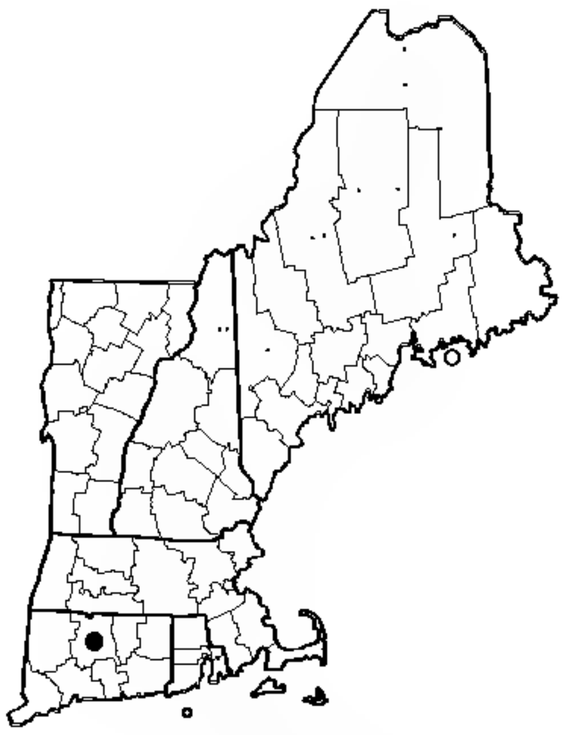


CATALPA SPECIOSA

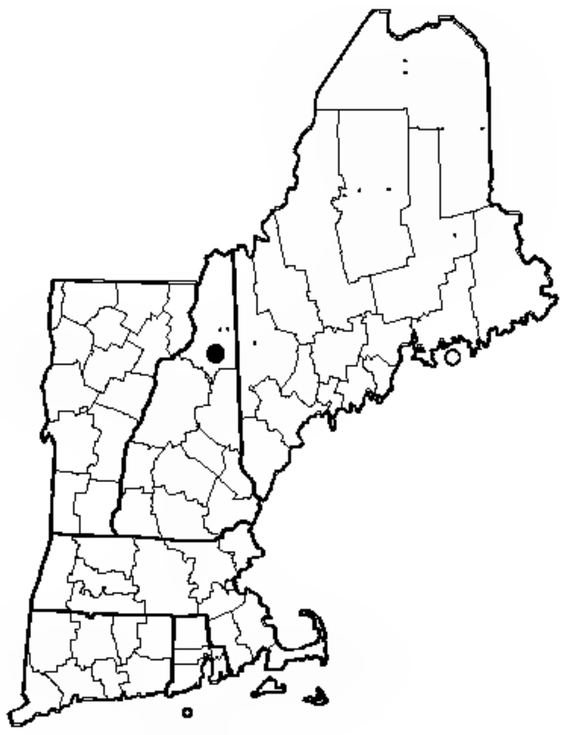


Campanula aparinoides

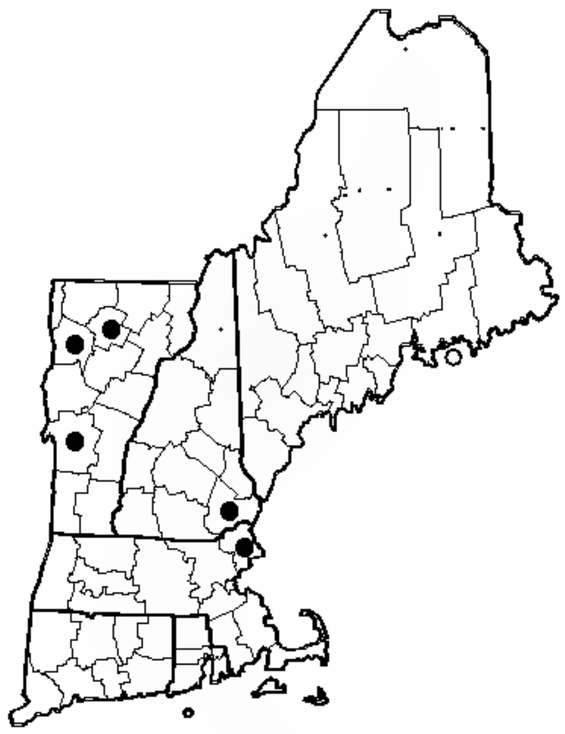
Figure 5 Distribution maps



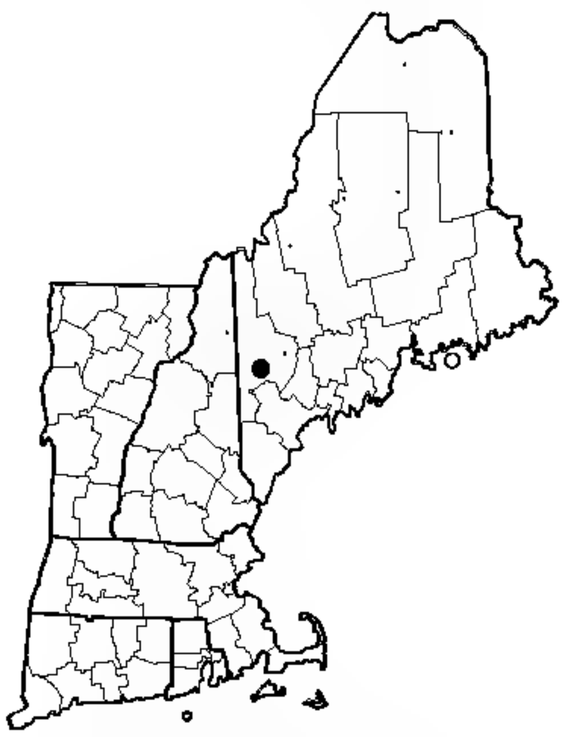
CAMPANULA CARPATICA



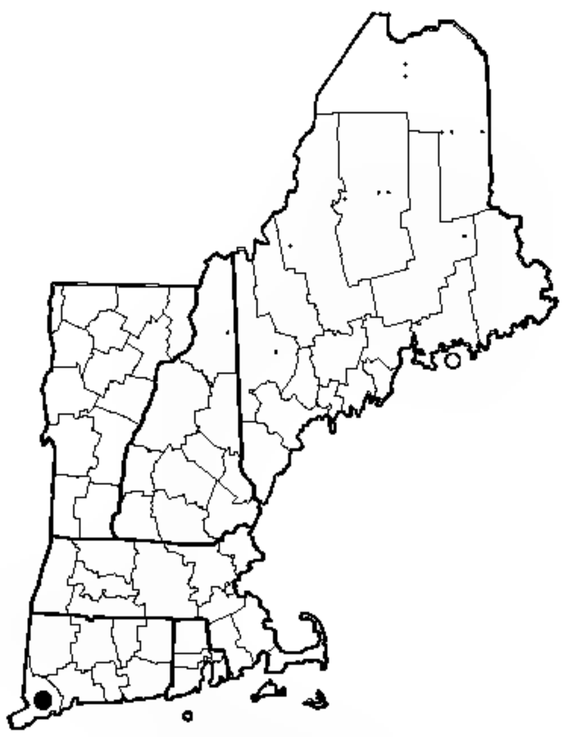
CAMPANULA DIVARICATA



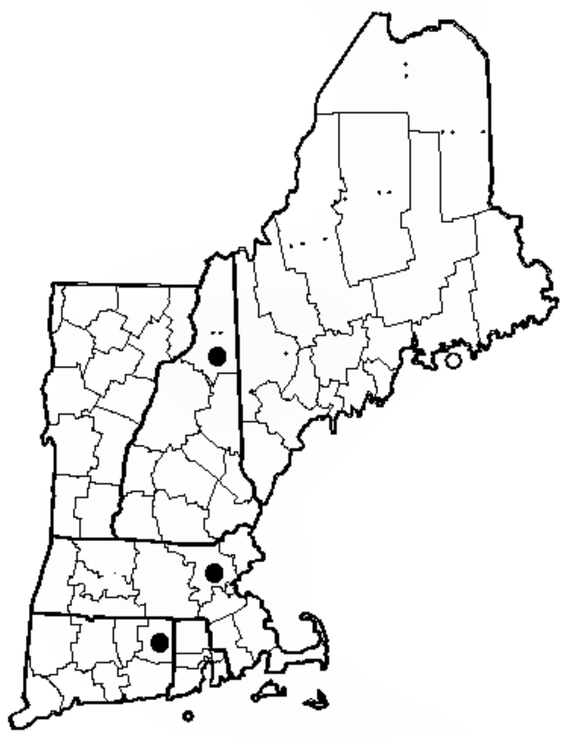
CAMPANULA GLOMERATA



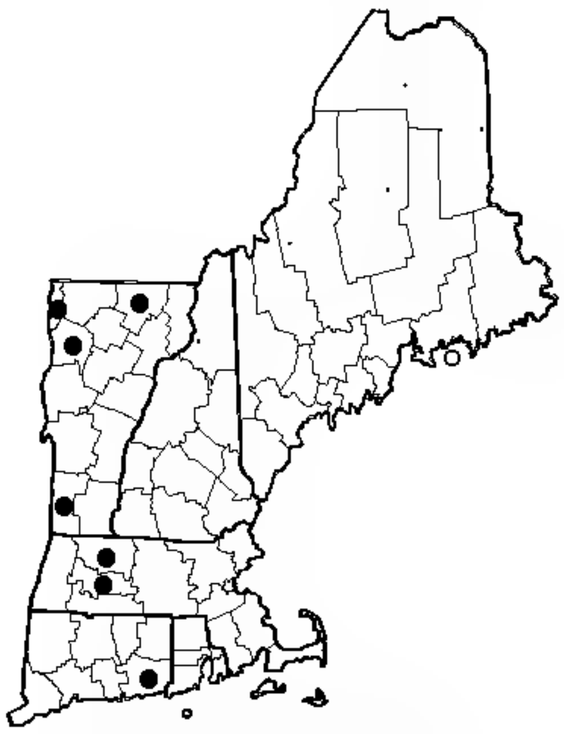
CAMPANULA LATIFOLIA



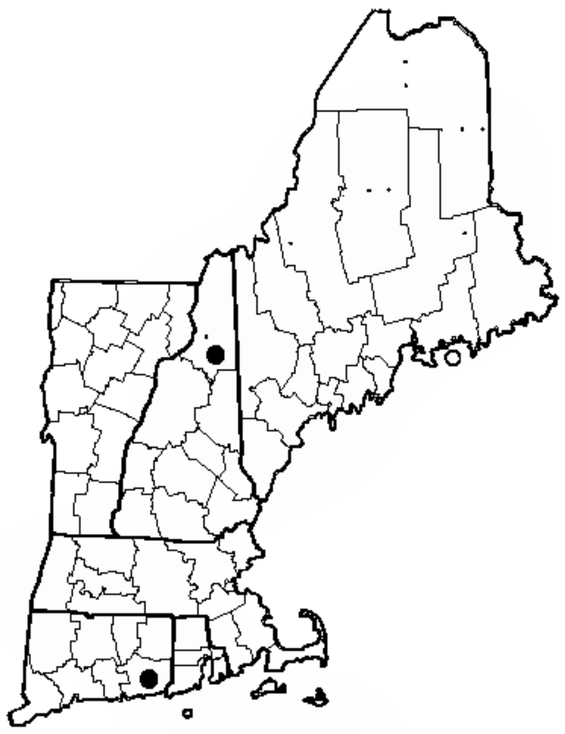
CAMPANULA MEDIUM



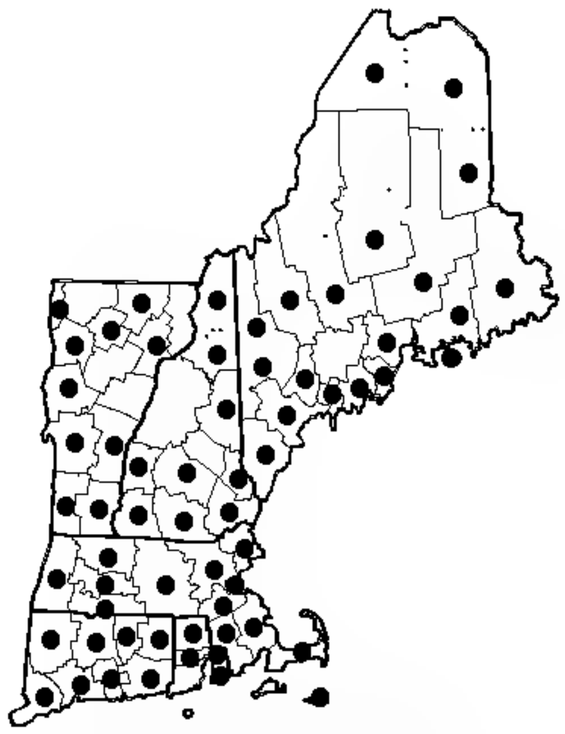
CAMPANULA PATULA



CAMPANULA PERSICIFOLIA

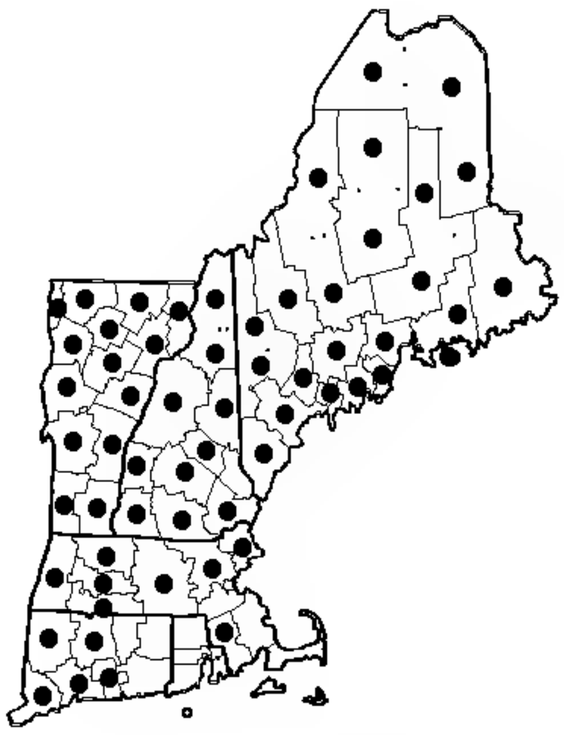


CAMPANULA PUNCTATA

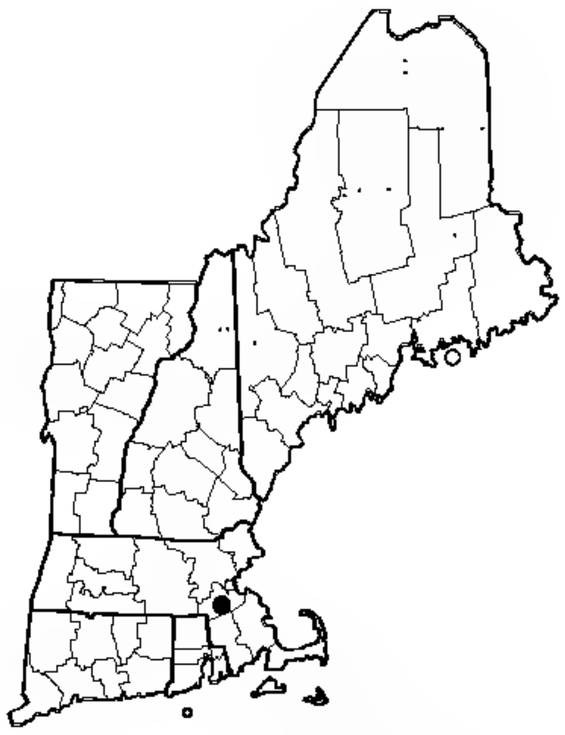


CAMPANULA RAPUNCULOIDES

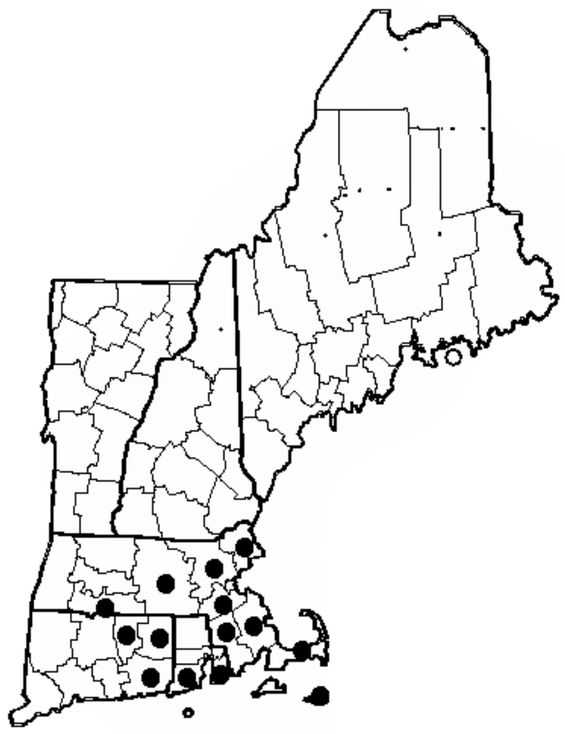
Figure 6 Distribution maps



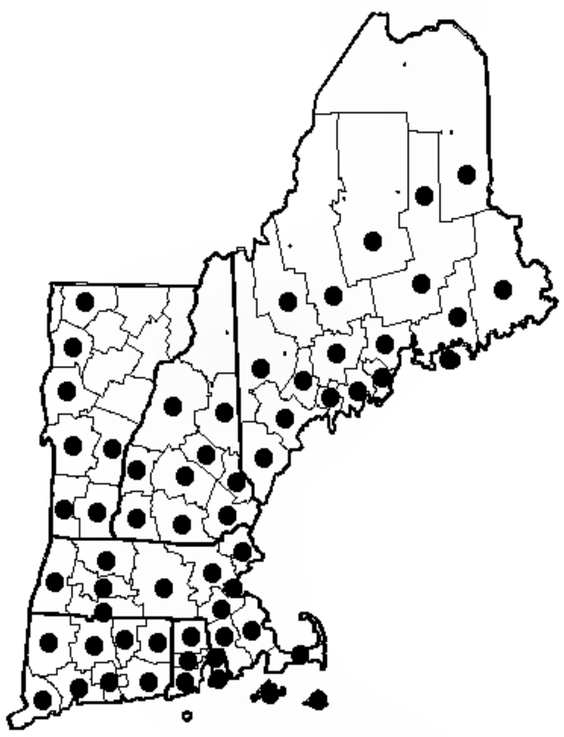
Campanula rotundifolia



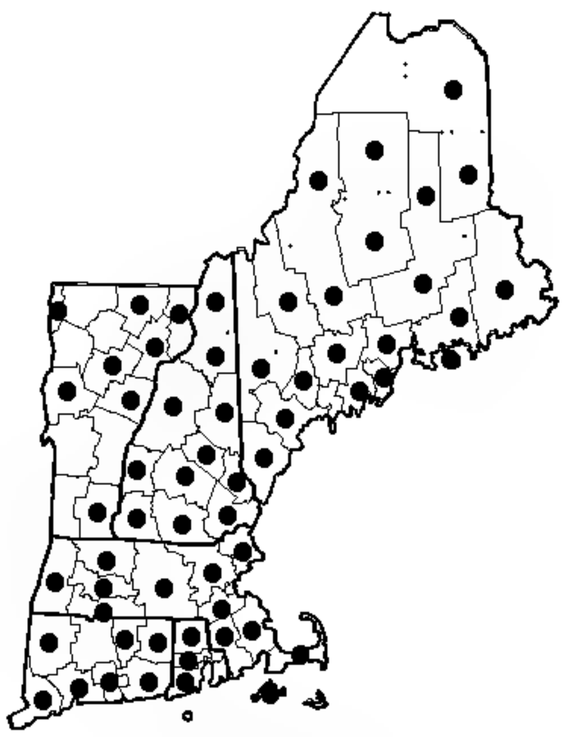
CAMPANULA TRACHELIUM



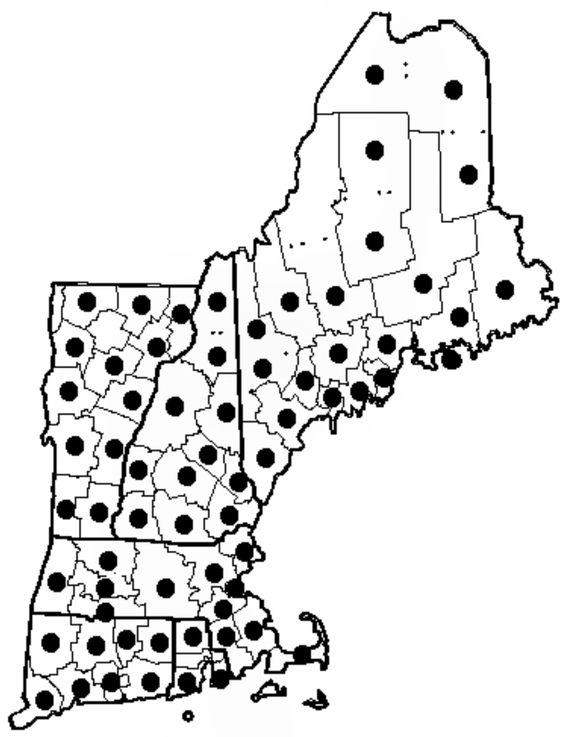
JASIONE MONTANA



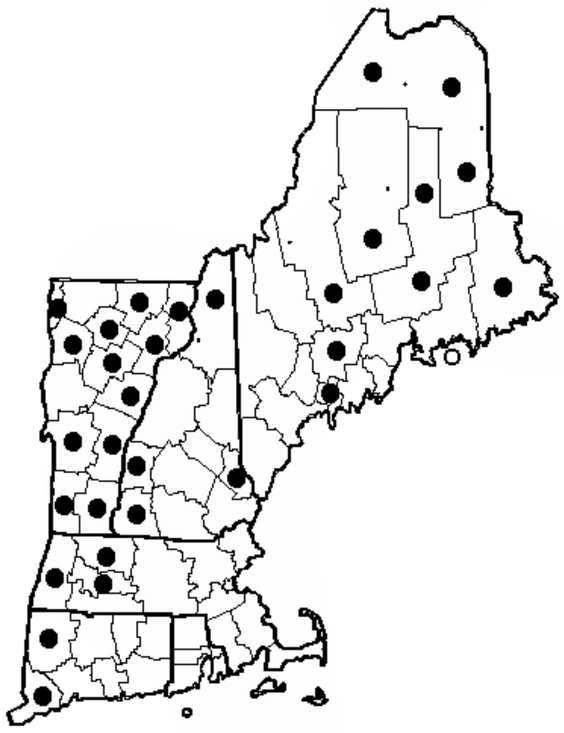
Lobelia cardinalis



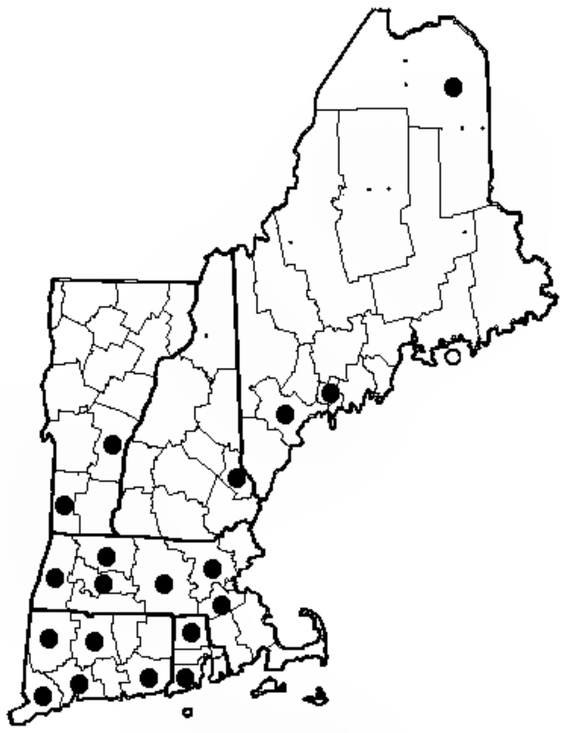
Lobelia dortmanna



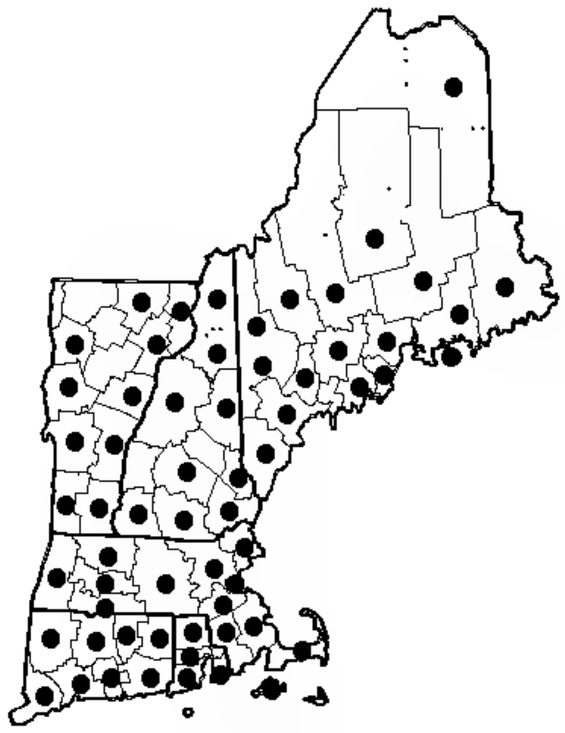
Lobelia inflata



Lobelia kalmii

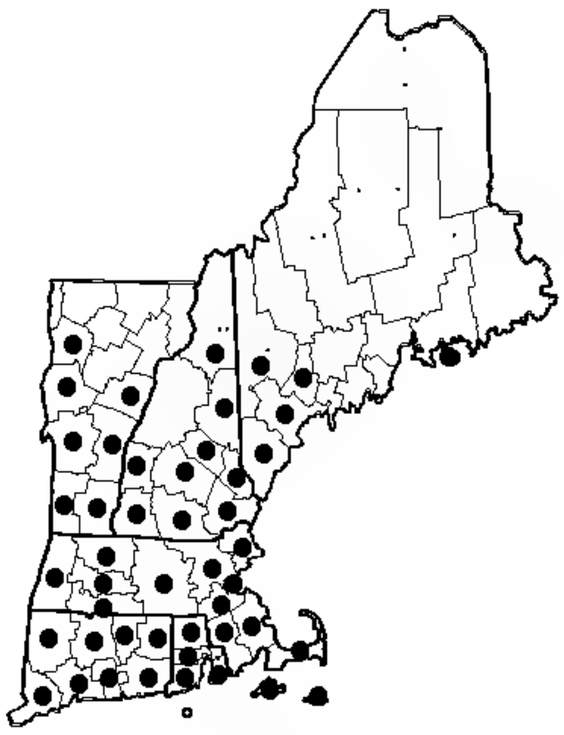


Lobelia siphilitica
var *siphilitica*

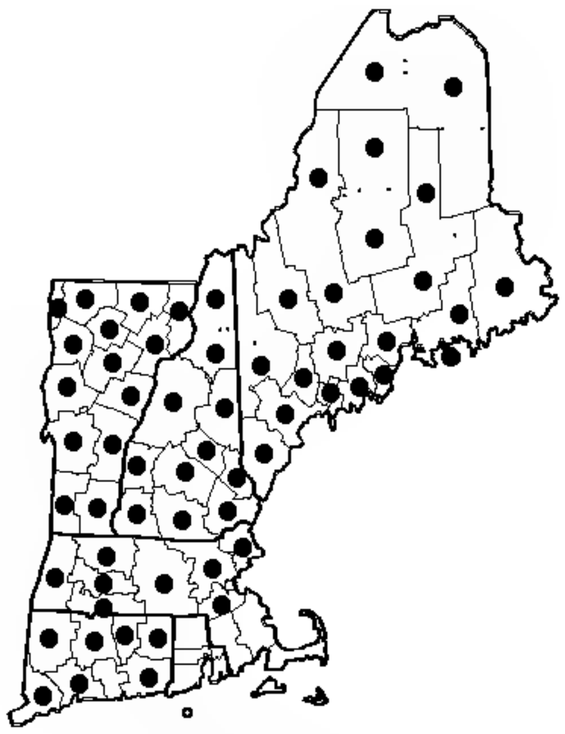


Lobelia spicata

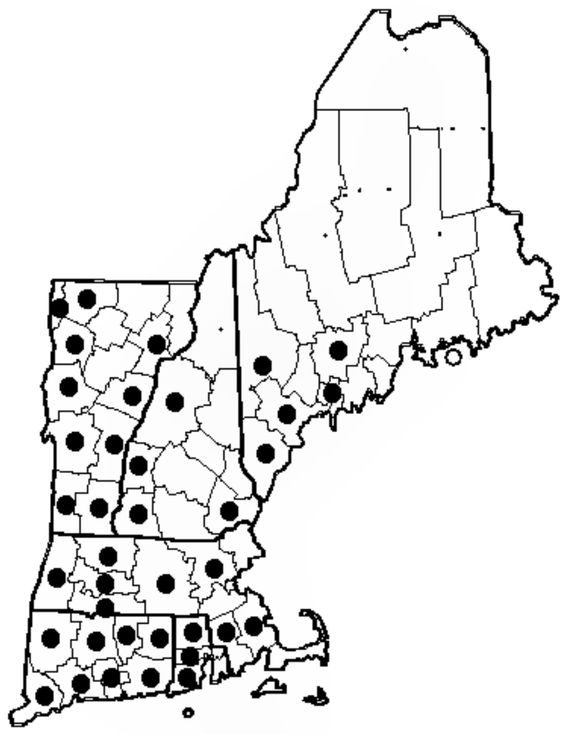
Figure 7 Distribution maps



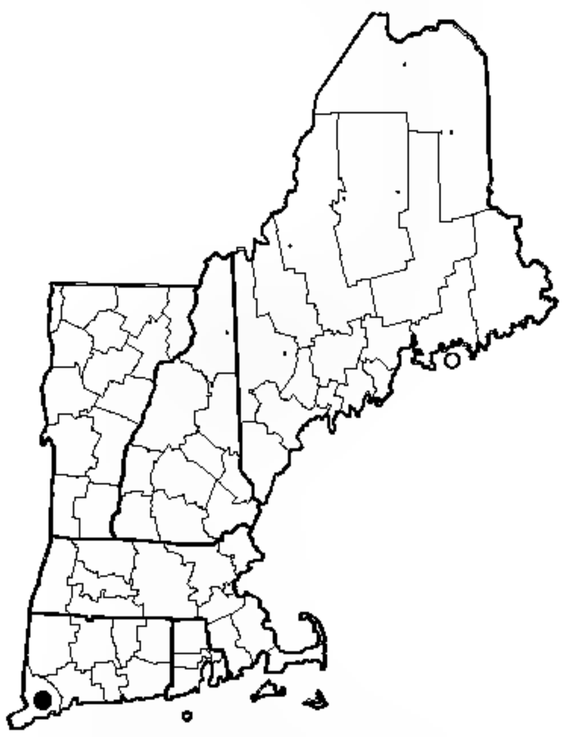
Triodanis perfoliata
subsp. *perfoliata*



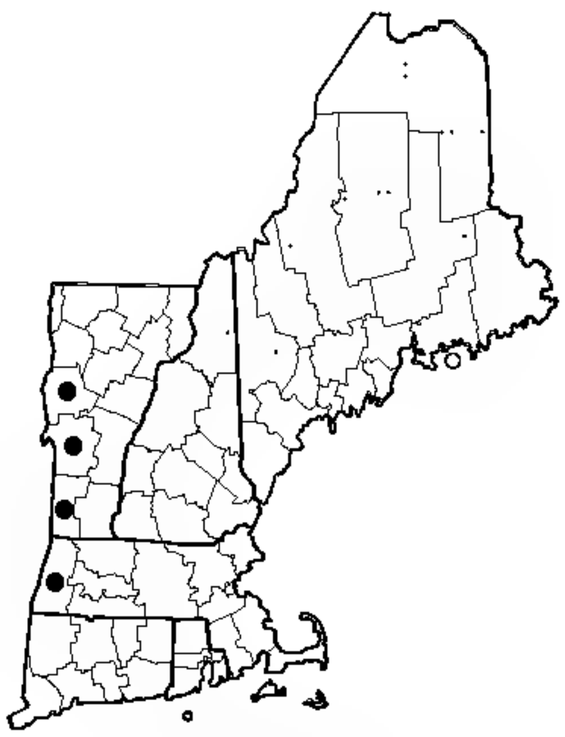
Lonicera canadensis



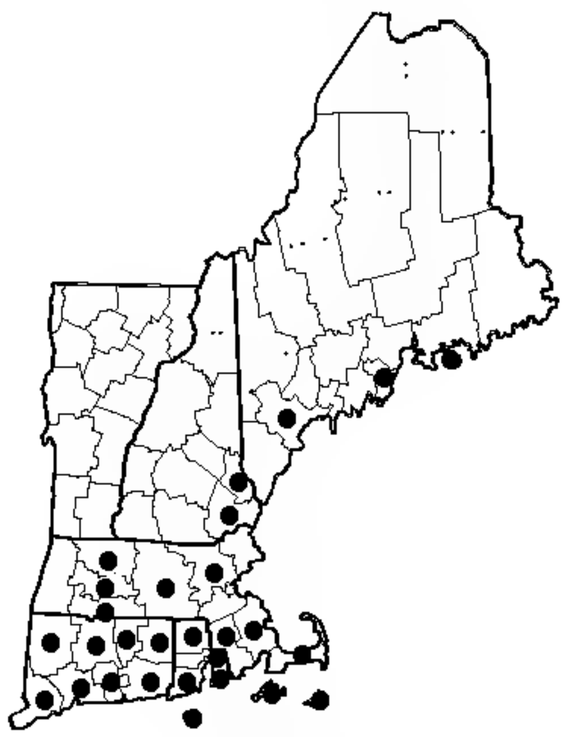
Lonicera dioica



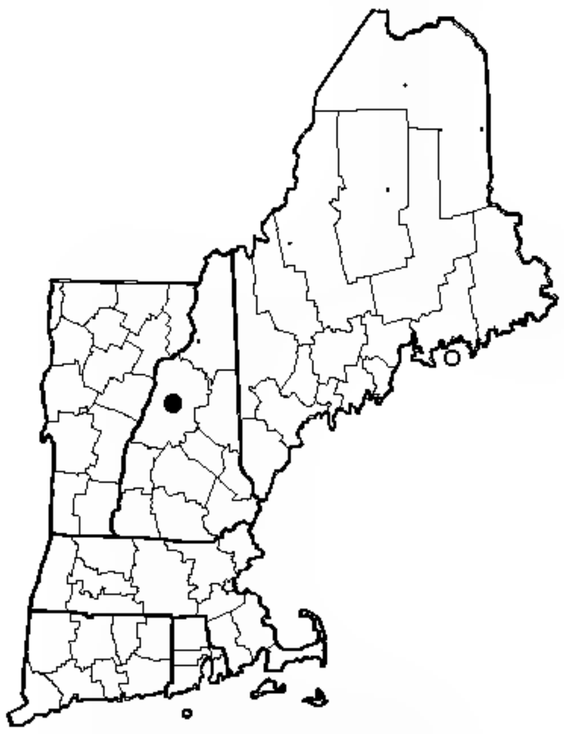
LONICERA FRAGRANTISSIMA



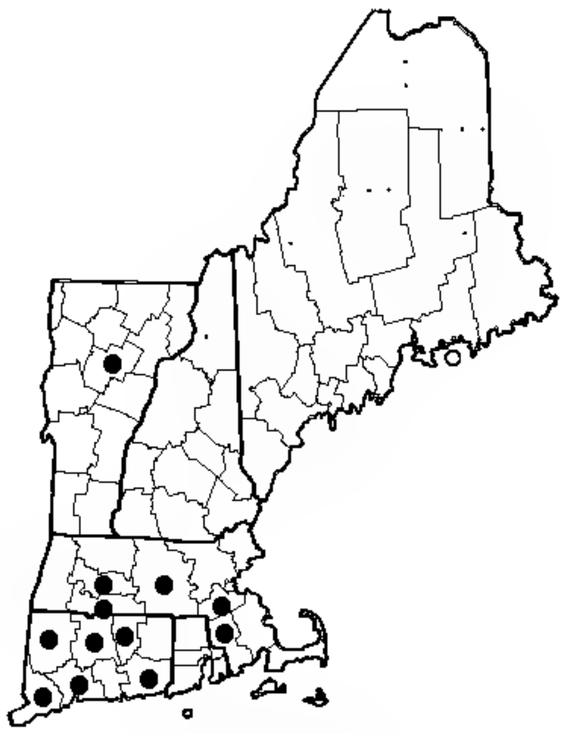
Lonicera hirsuta



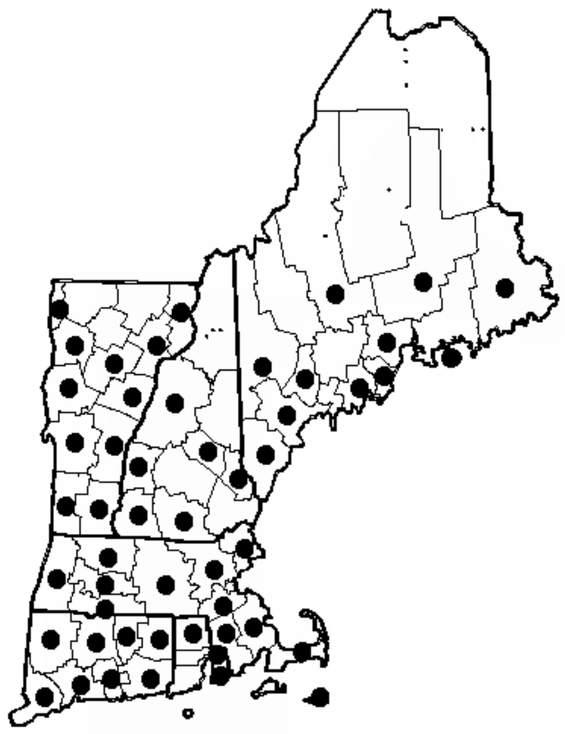
LONICERA JAPONICA



LONICERA KOROLKOWII

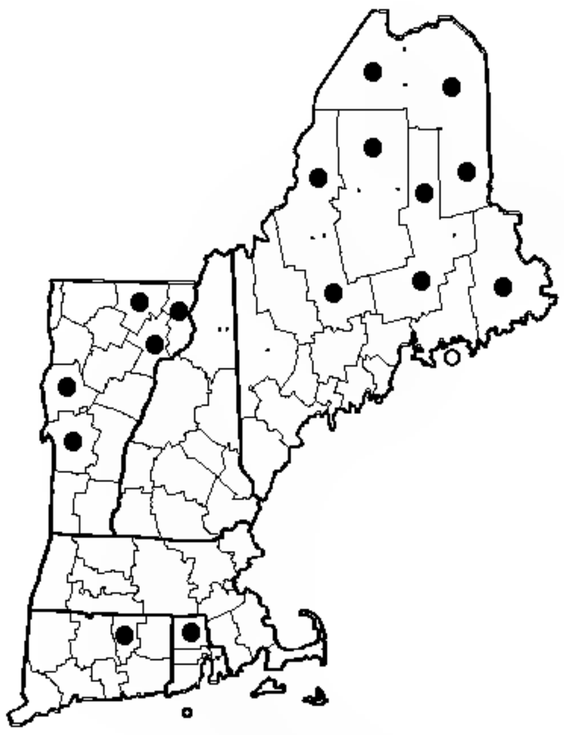


LONICERA MAACKII

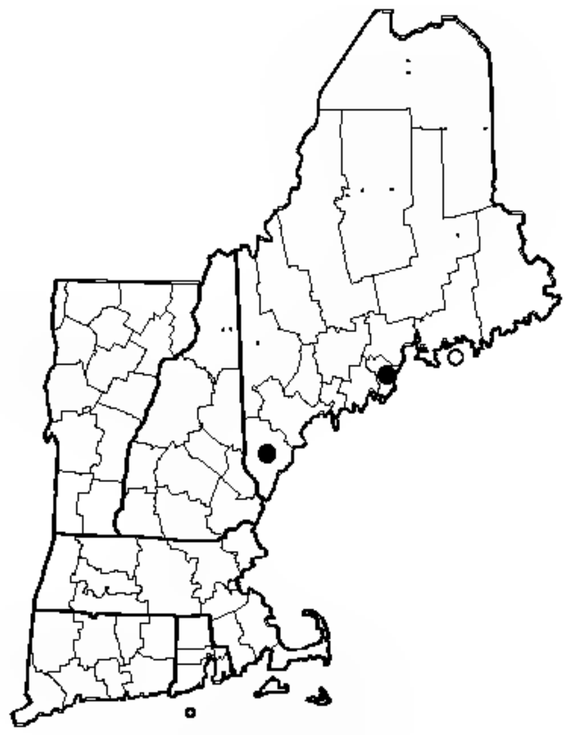


LONICERA MORROWII

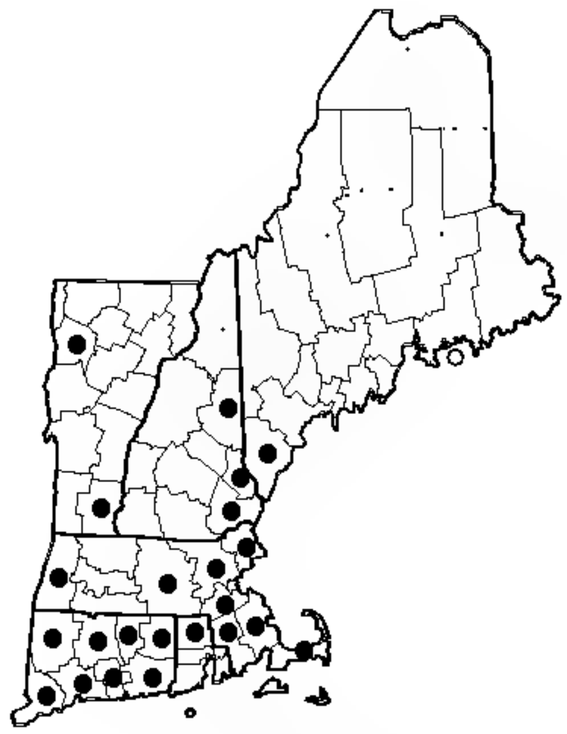
Figure 8 Distribution maps



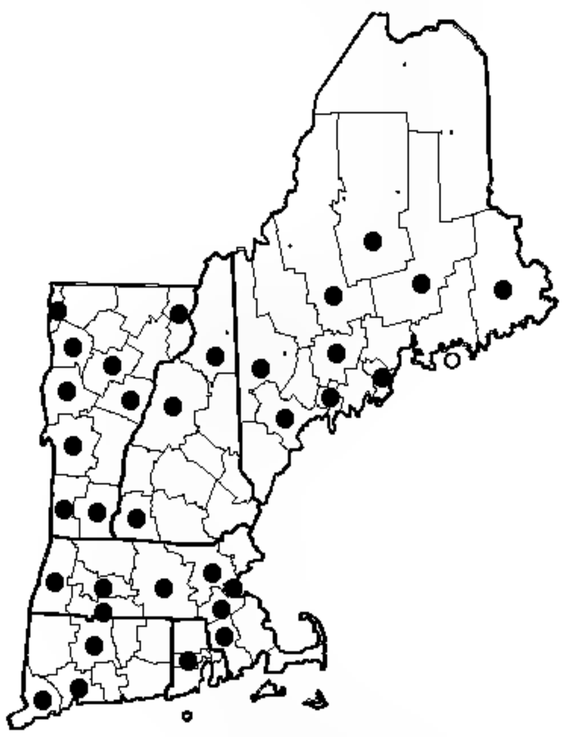
Lonicera oblongifolia



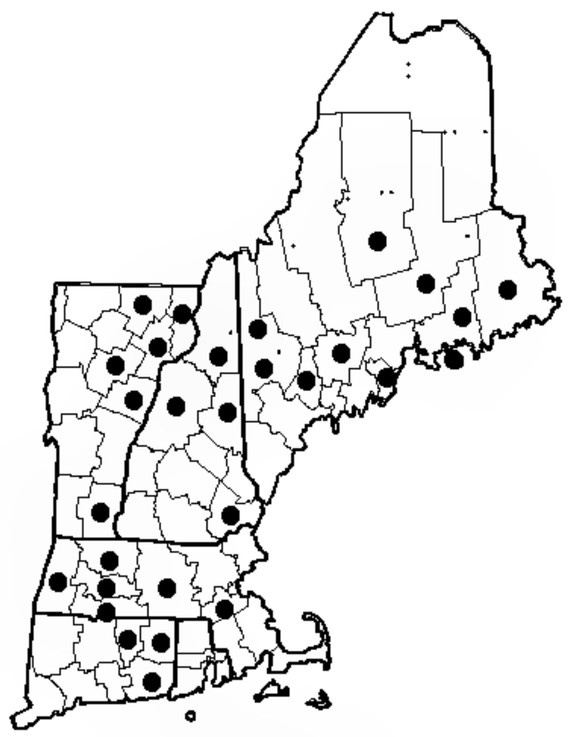
LONICERA PERICLYMENUM



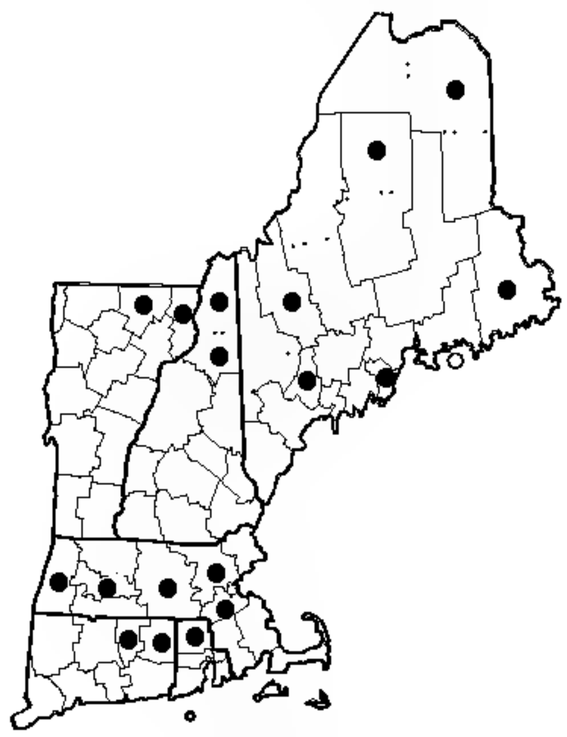
Lonicera sempervirens



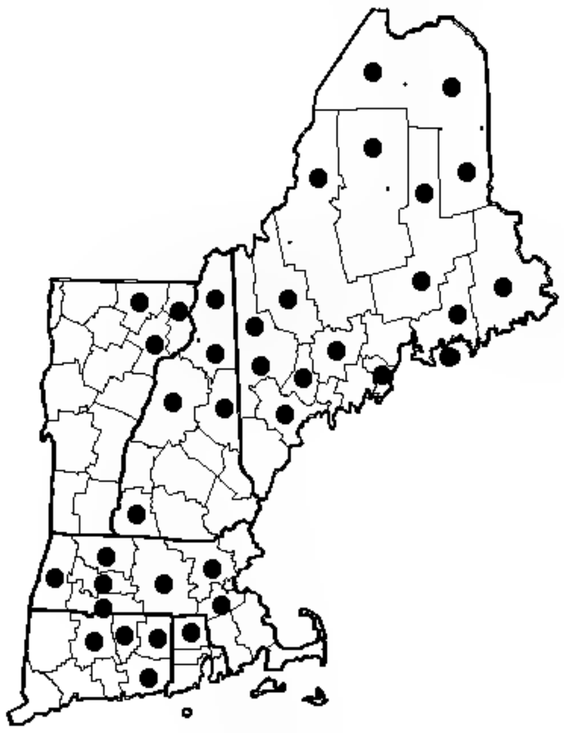
LONICERA TATARICA



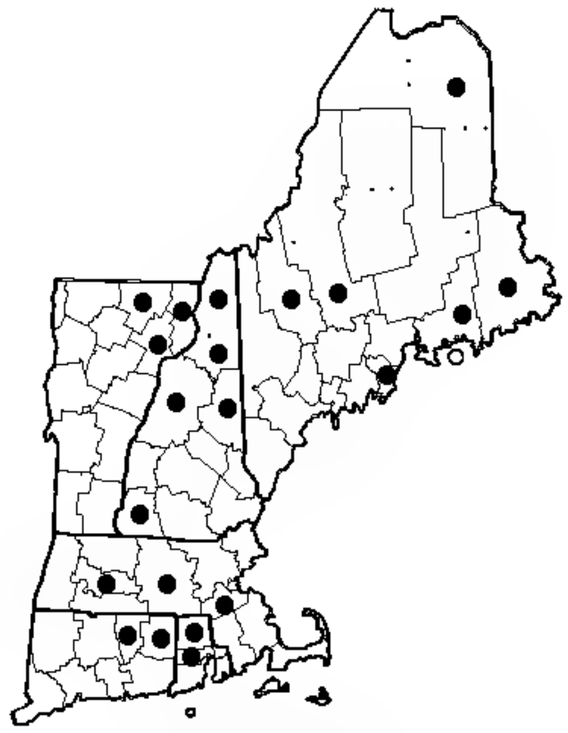
Lonicera villosa
var *villosa*



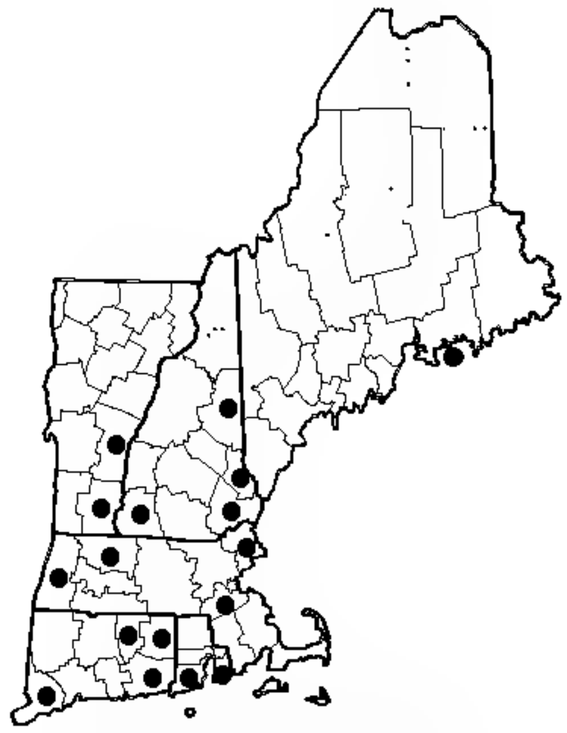
Lonicera villosa
var *calvescens*



Lonicera villosa
var *solonis*

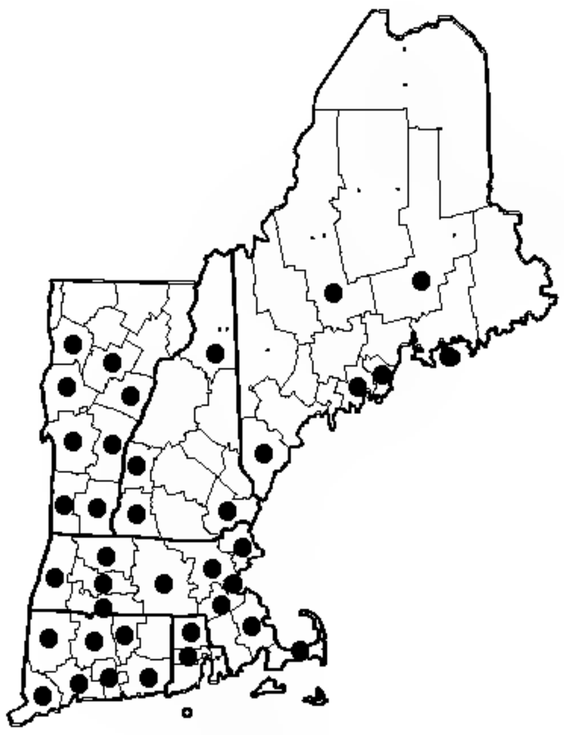


Lonicera villosa
var *tonsa*

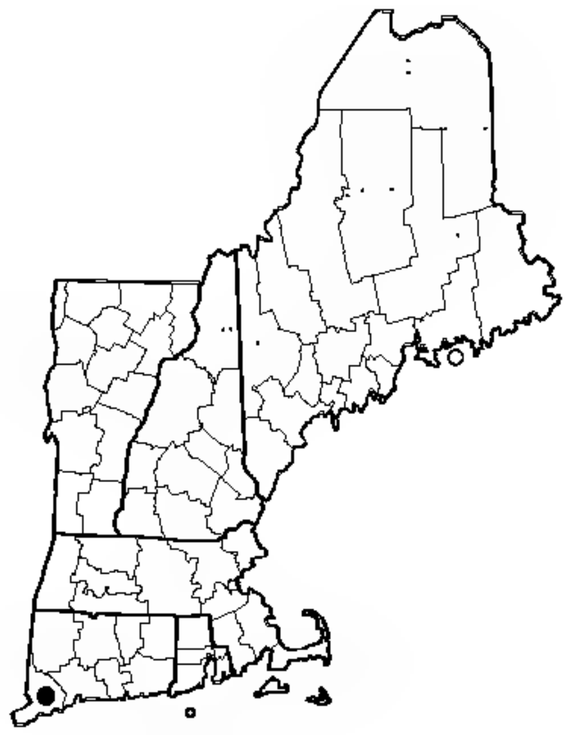


LONICERA XYLOSTEUM

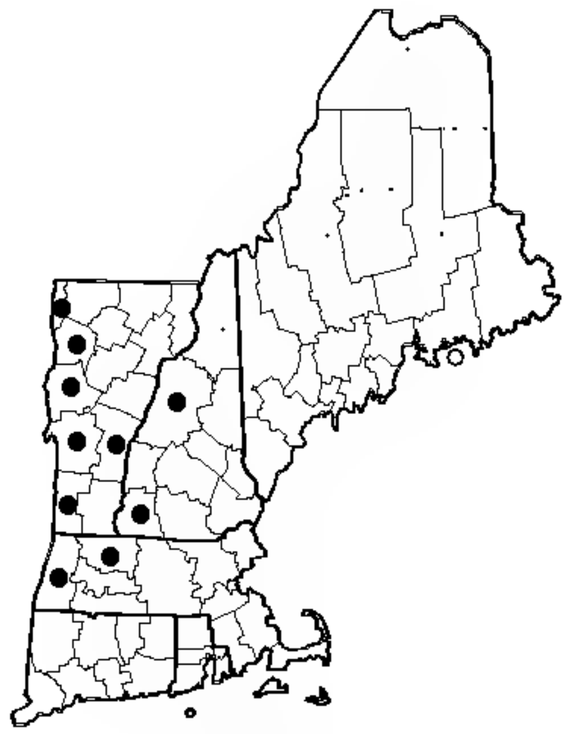
Figure 9 Distribution maps



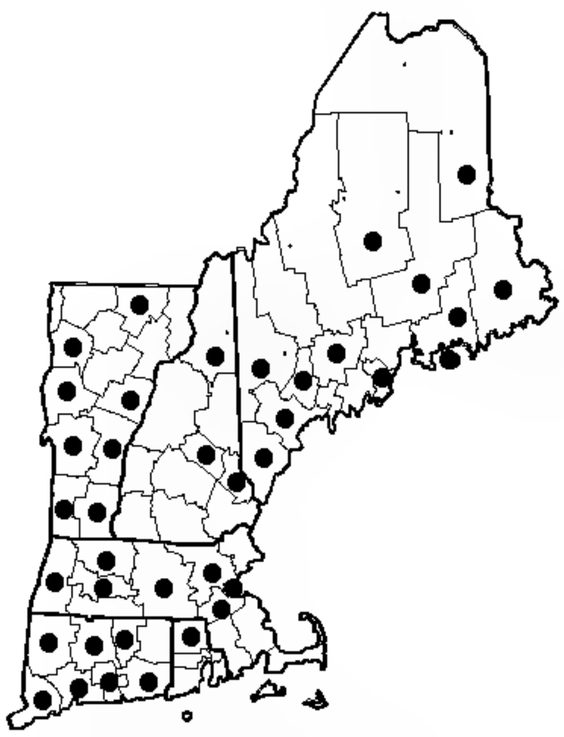
LONICERA X BELLA



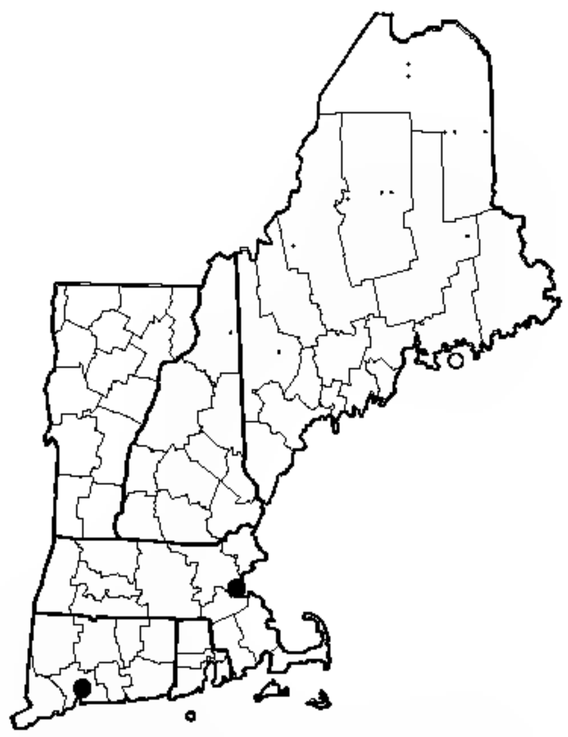
LONICERA X PURPUSII



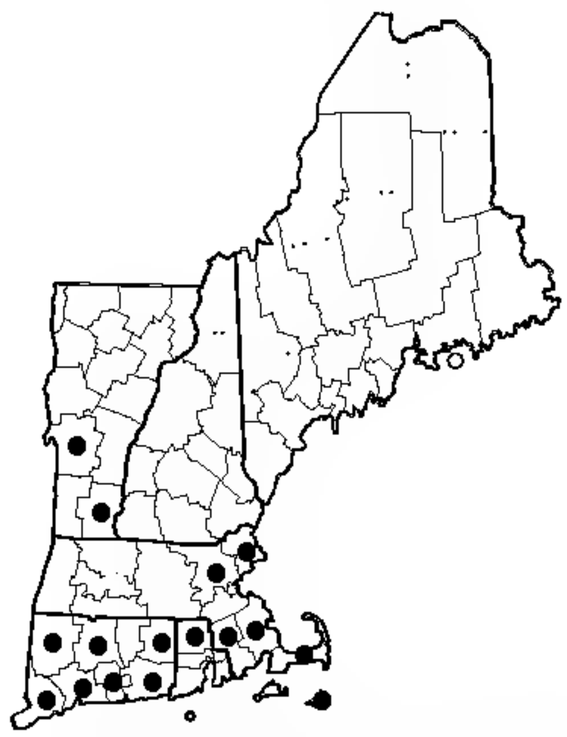
Symphoricarpos albus
var *albus*



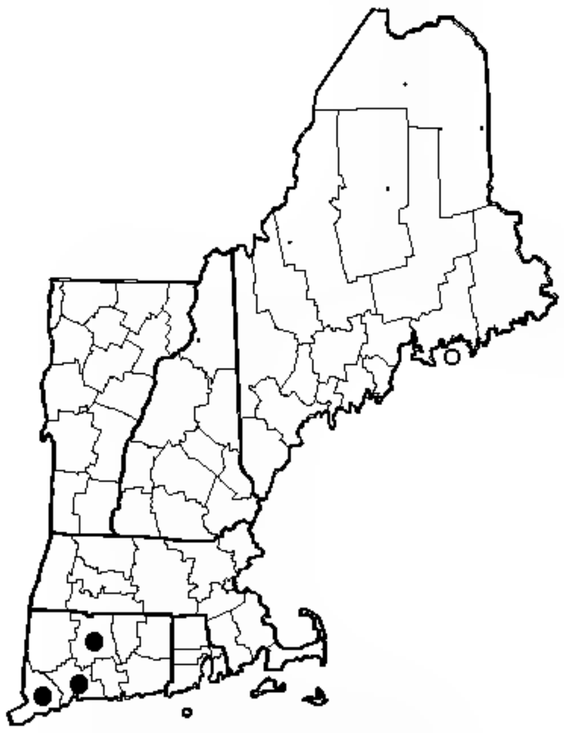
SYMPHORICARPOS ALBUS
var *LAEVIGATUS*



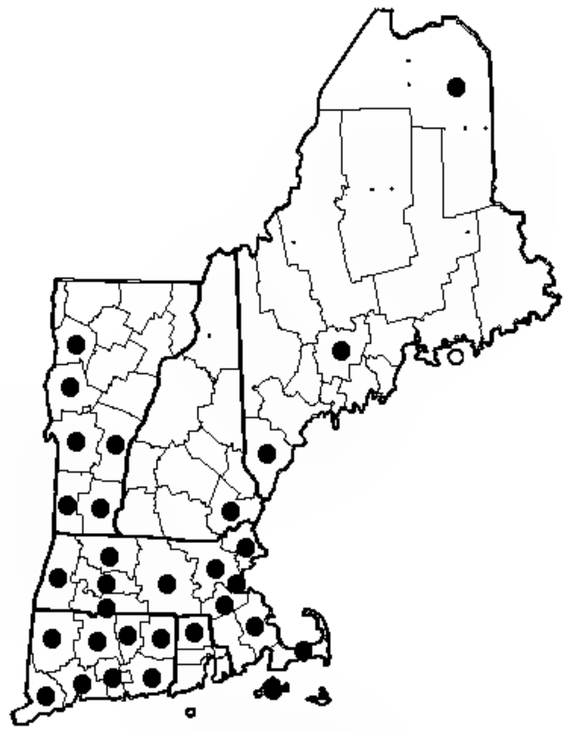
SYMPHORICARPOS OCCIDENTALIS



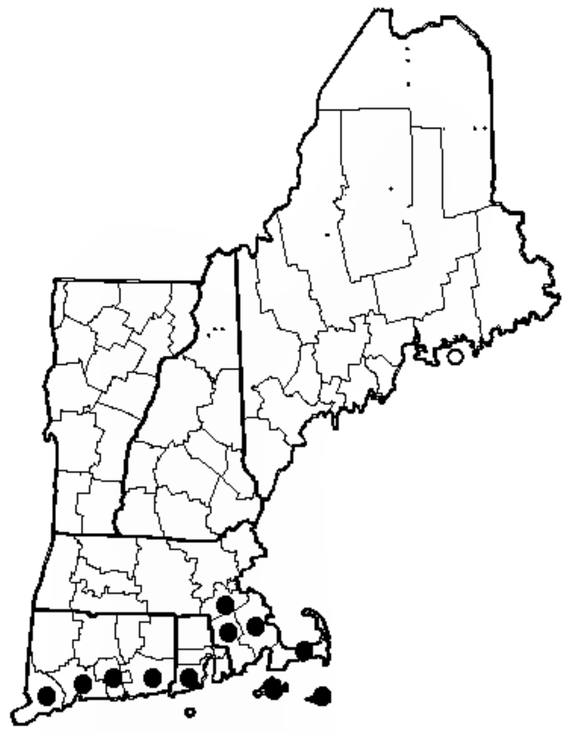
SYMPHORICARPOS ORBICULATUS



Triosteum angustifolium

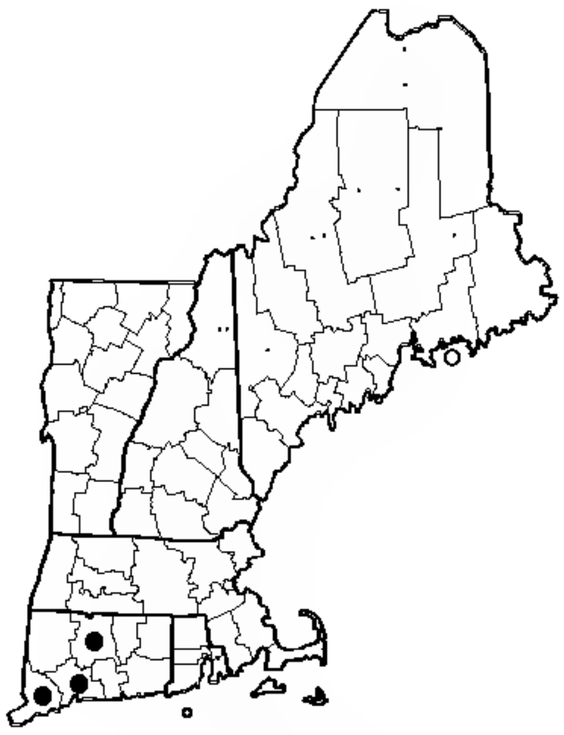


Triosteum aurantiacum
var *aurantiacum*

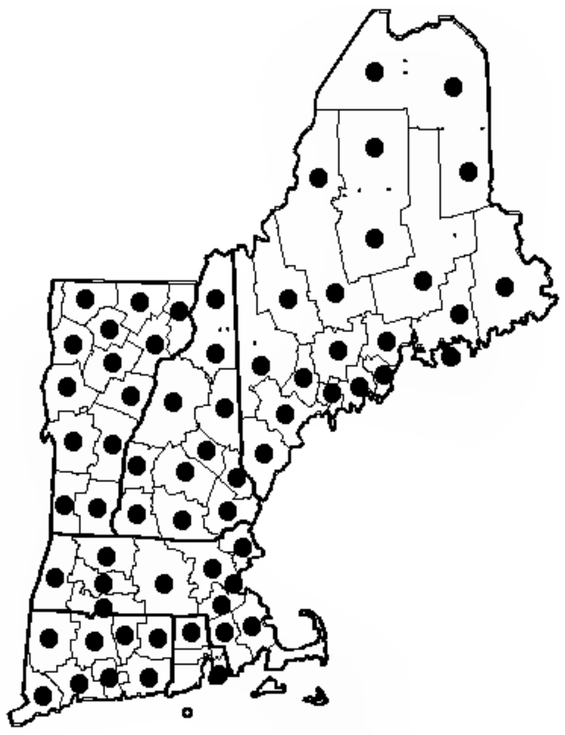


Triosteum perfoliatum

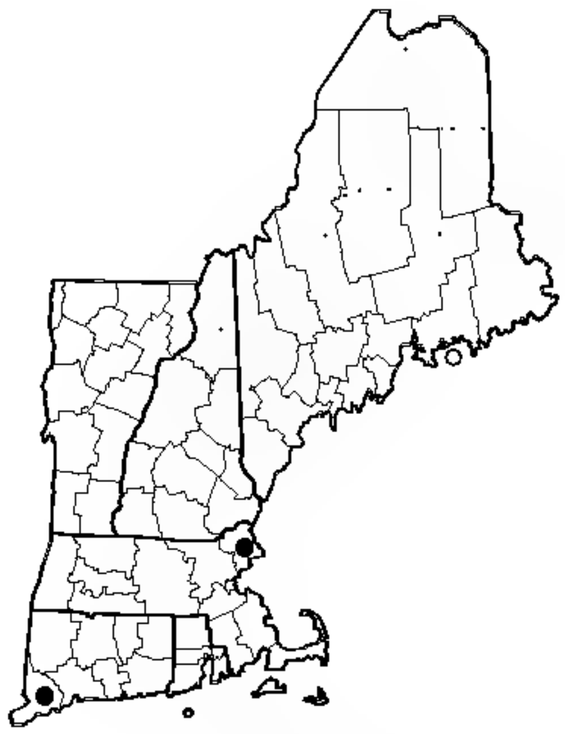
Figure 10 Distribution maps



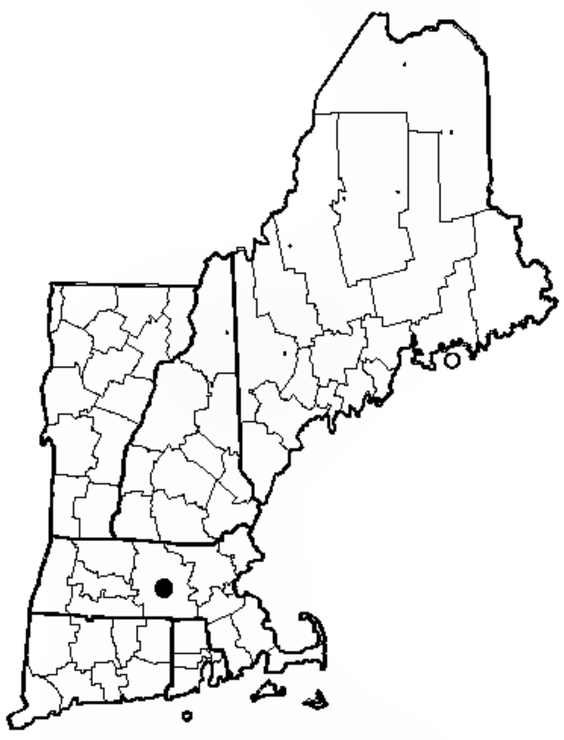
Triosteum X eamesii



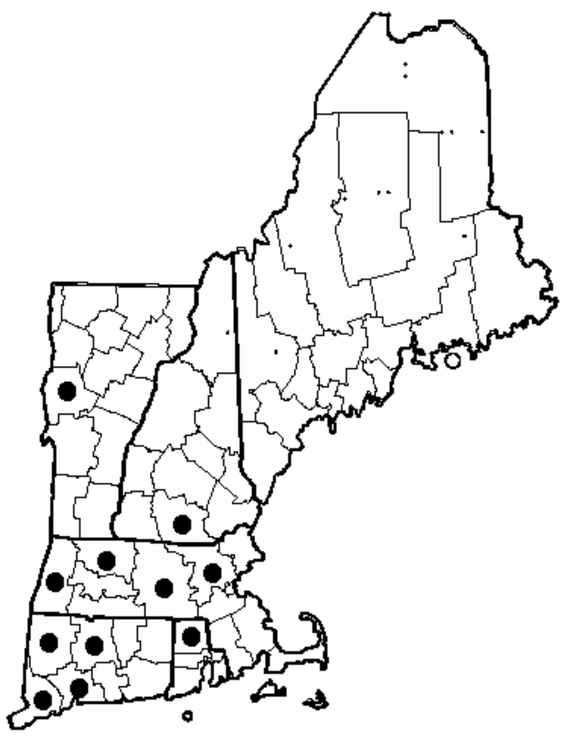
Diervilla lonicera



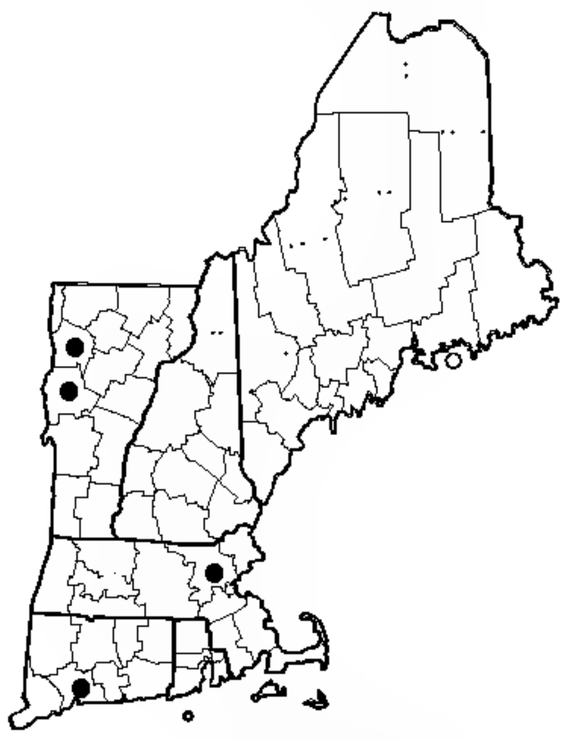
WEIGALA FLORIBUNDA



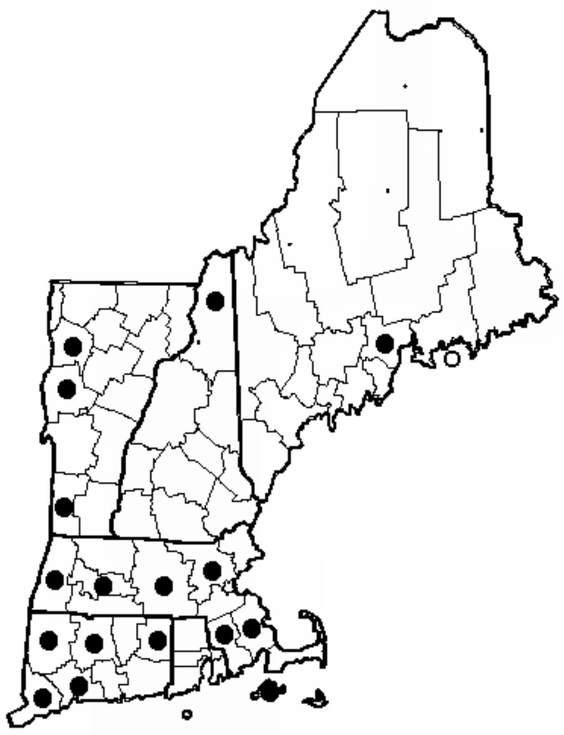
CEPHALARIA GIGANTEA



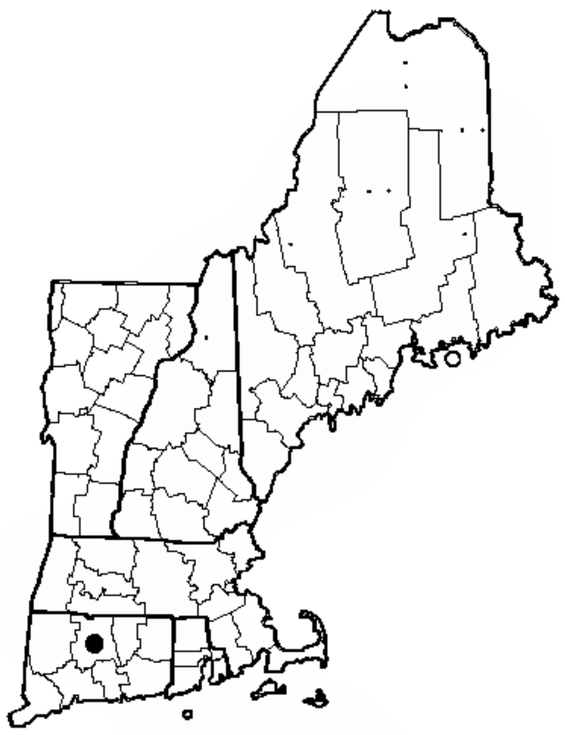
DIPSACUS FULLONUM



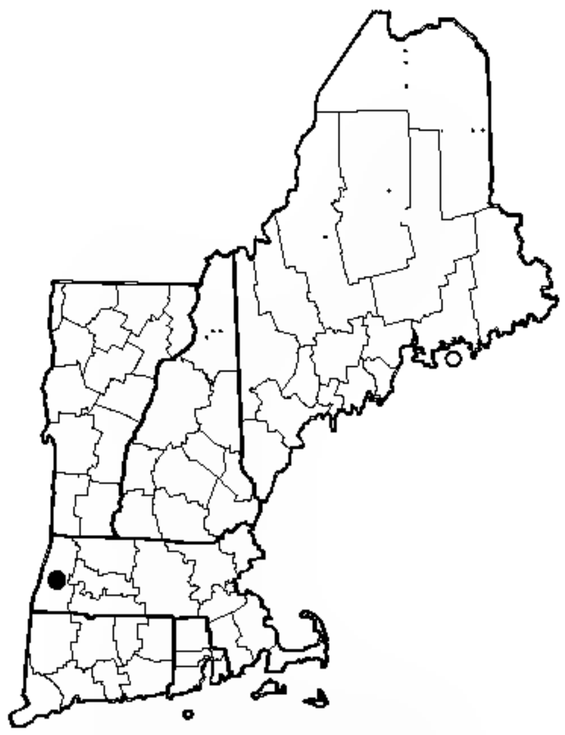
DIPSACUS LACINIATUS



KNAUTIA ARVENSIS
subsp. *ARVENSIS*

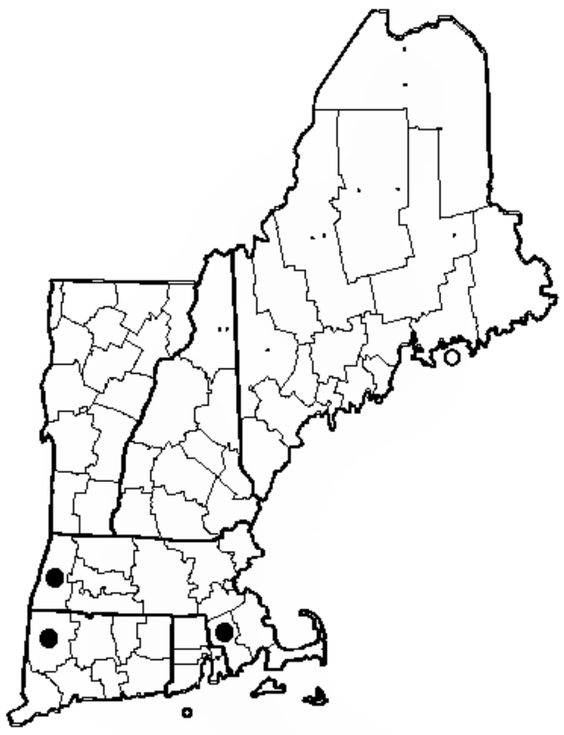


KNAUTIA ARVENSIS
subsp. *ROSEA*

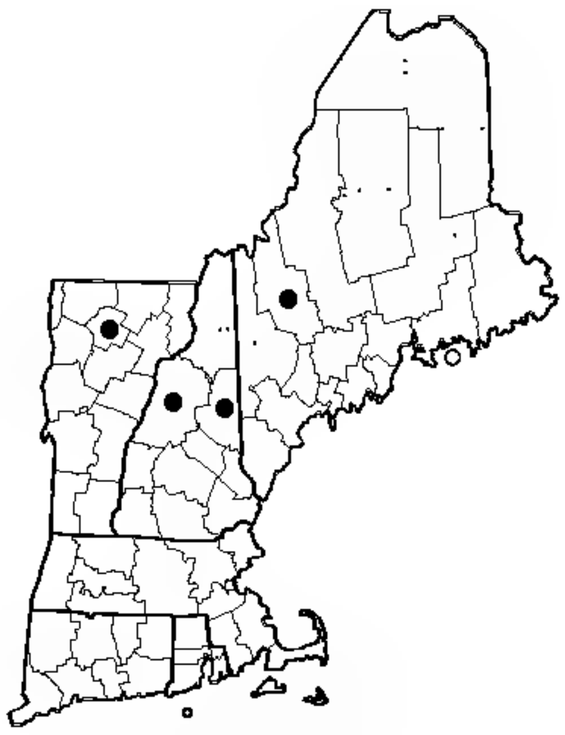


SCABIOSA OCHROLEUCA

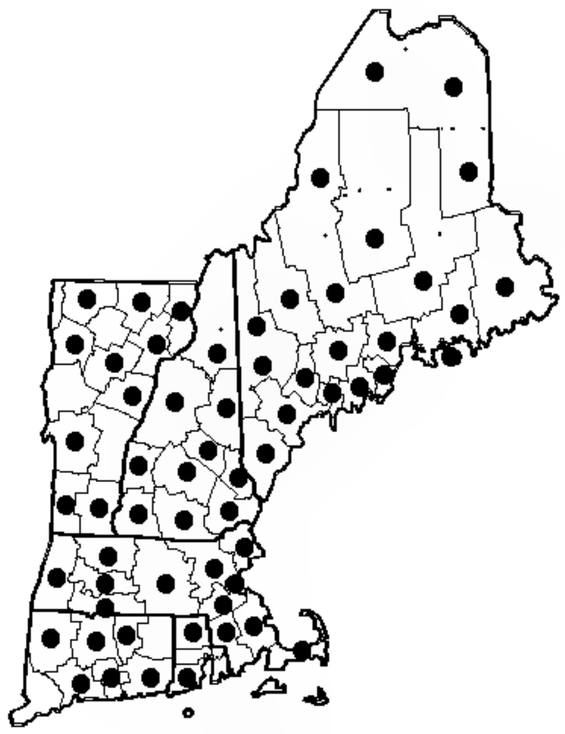
Figure 11 Distribution maps



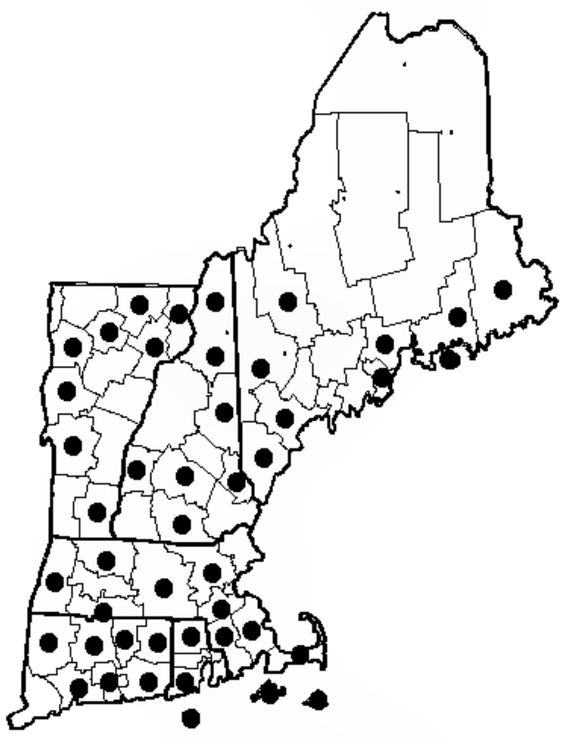
SUCCISELLA INFLEXA



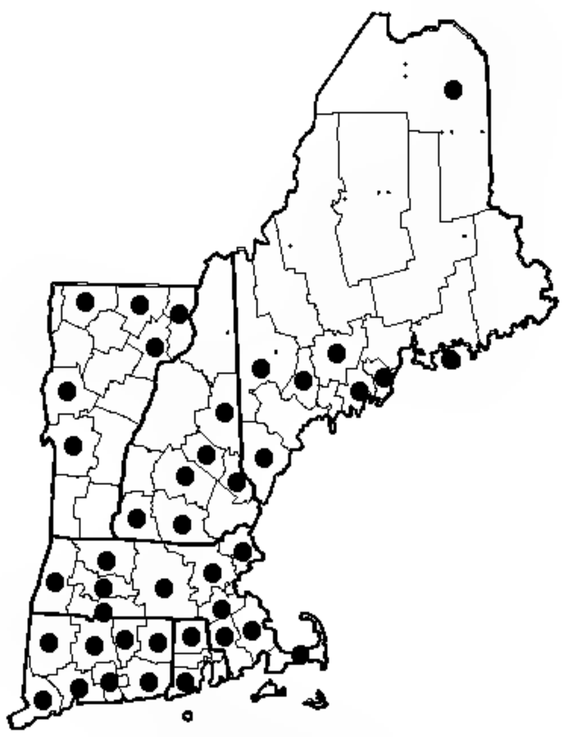
Pinguicula vulgaris
subsp. *vulgaris*



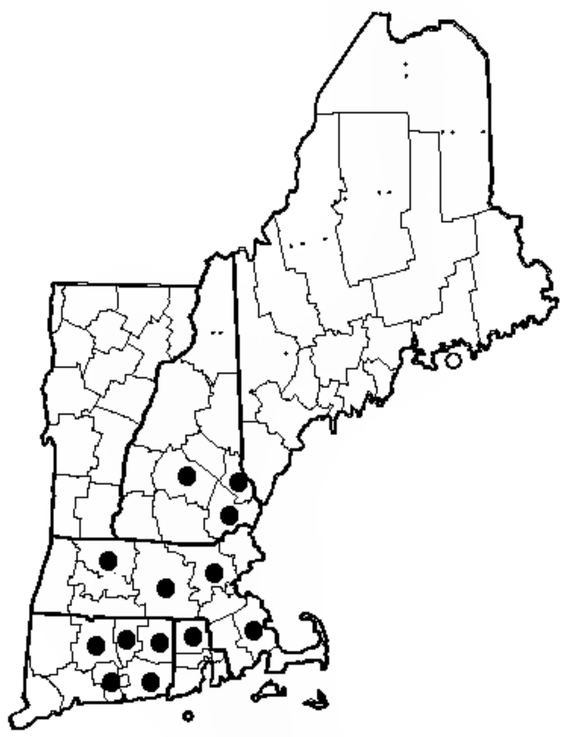
Utricularia cornuta



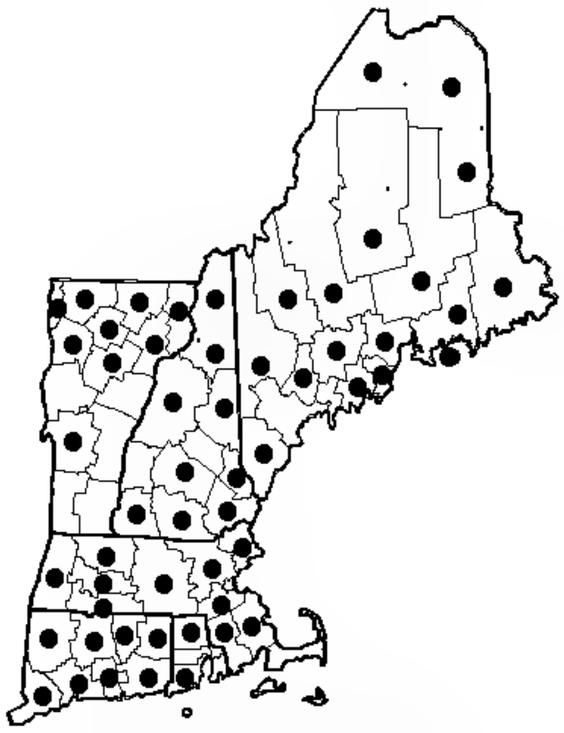
Utricularia geminiscapa



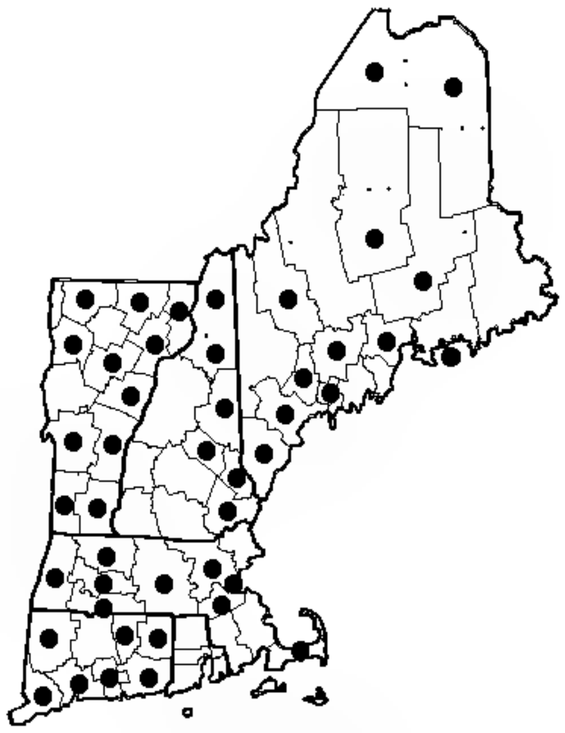
Utricularia gibba



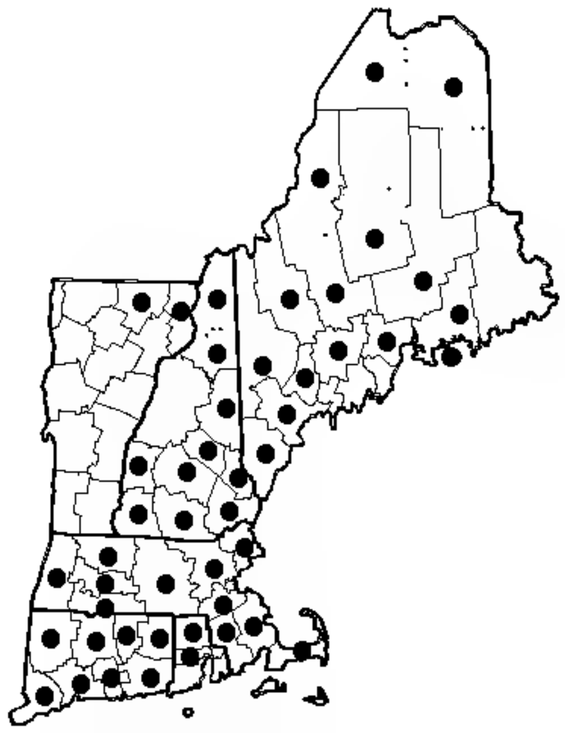
Utricularia inflata



Utricularia intermedia

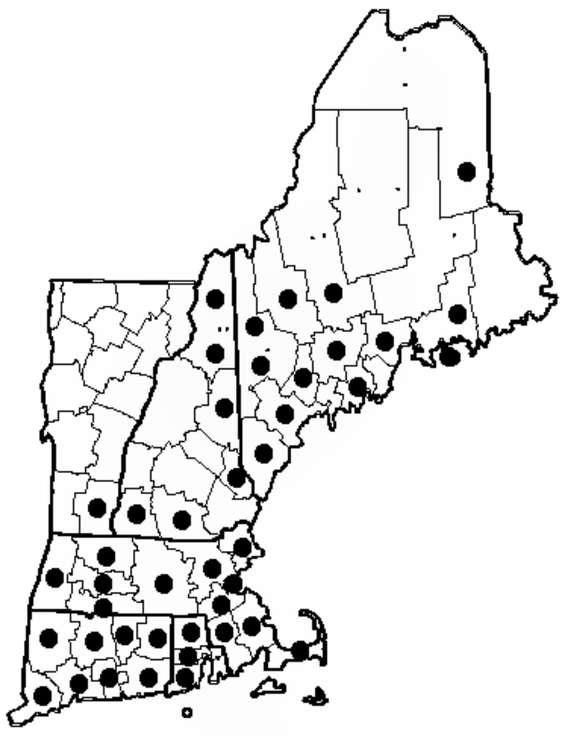


Utricularia minor

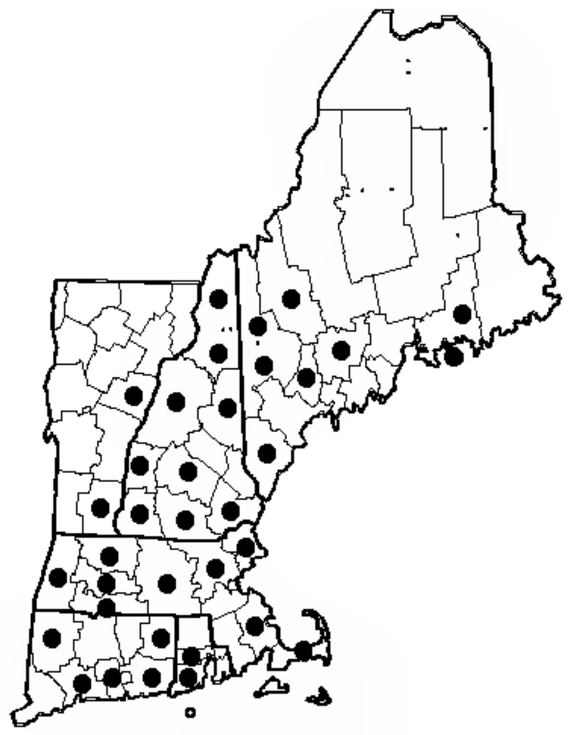


Utricularia purpurea

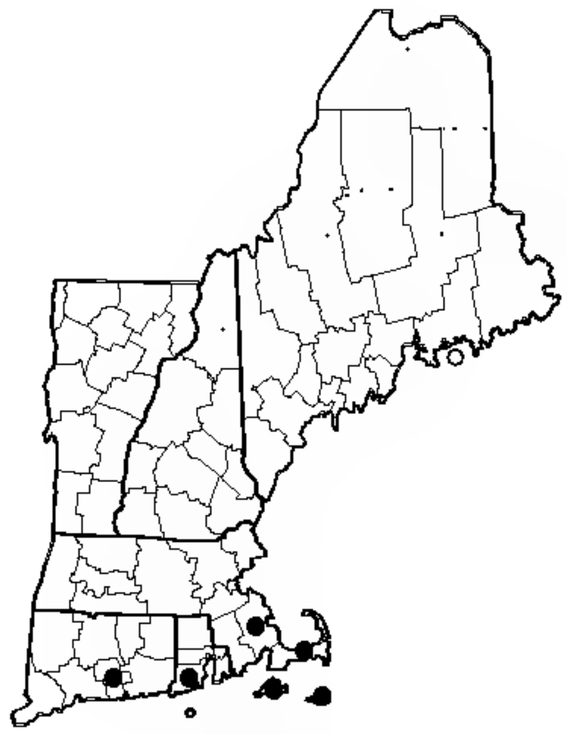
Figure 12 Distribution maps



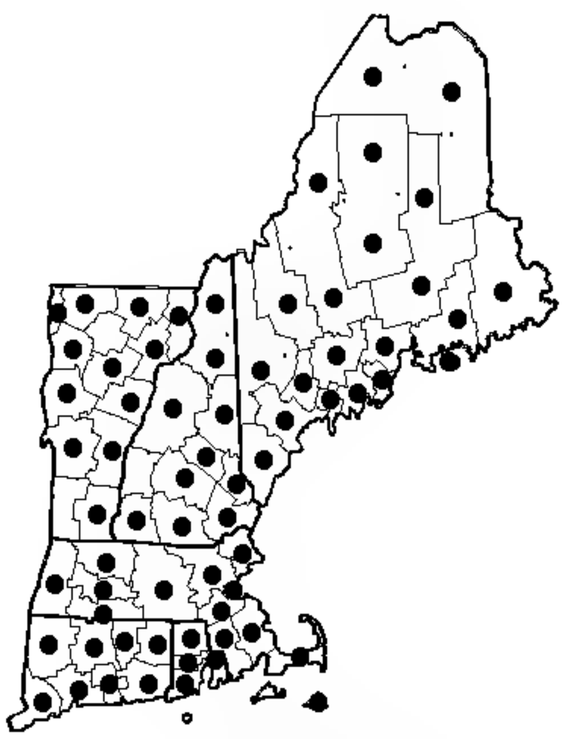
Utricularia radiata



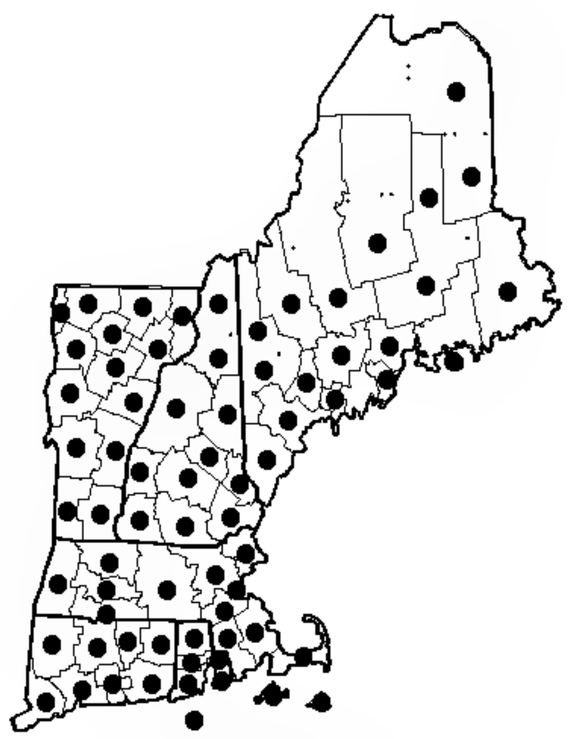
Utricularia resupinata



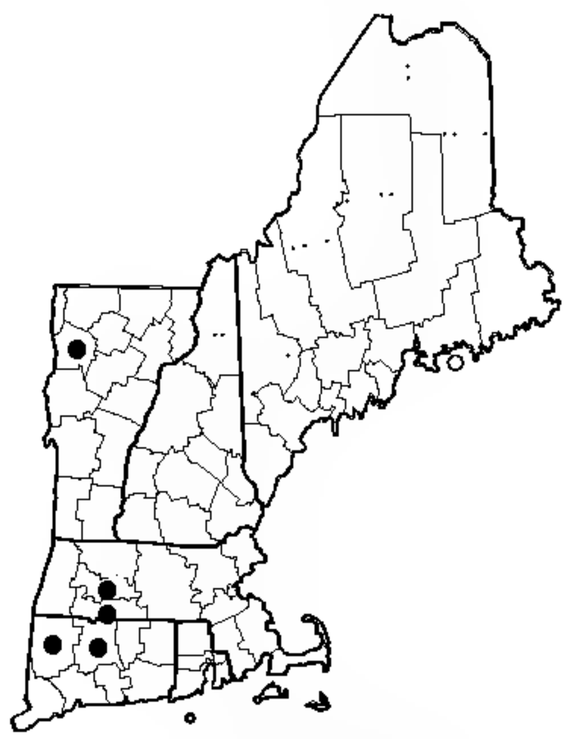
Utricularia subulata



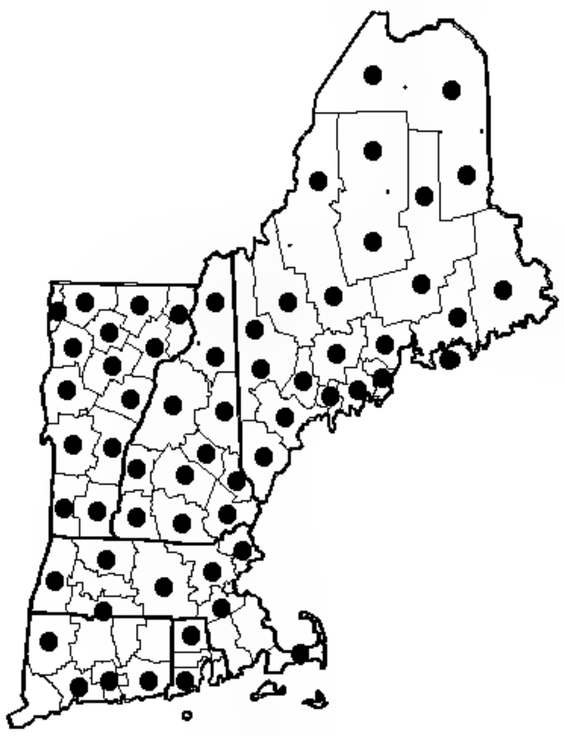
Utricularia vulgaris
subsp. *macrorhiza*



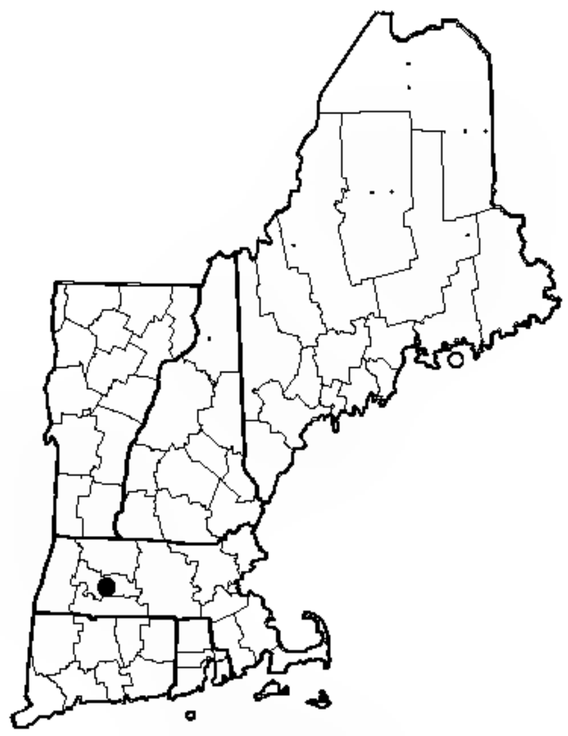
Lindernia dubia



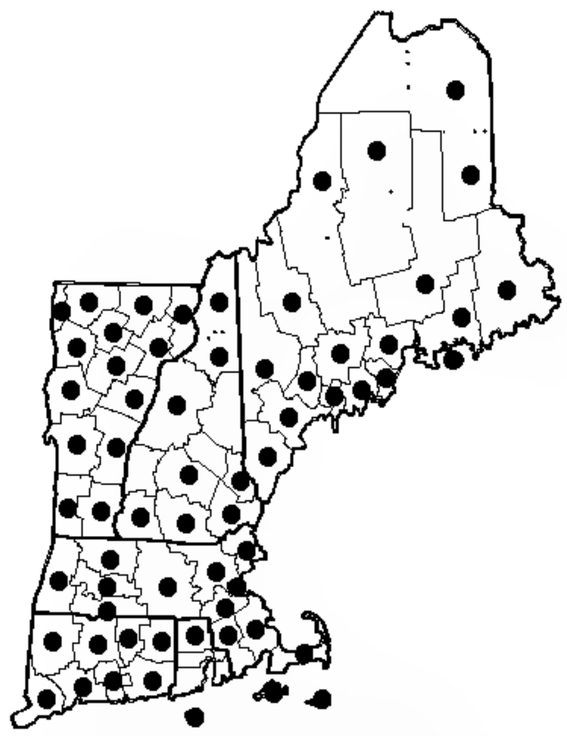
KOLKWITZIA AMABILIS



Limnaea borealis
var *longiflora*

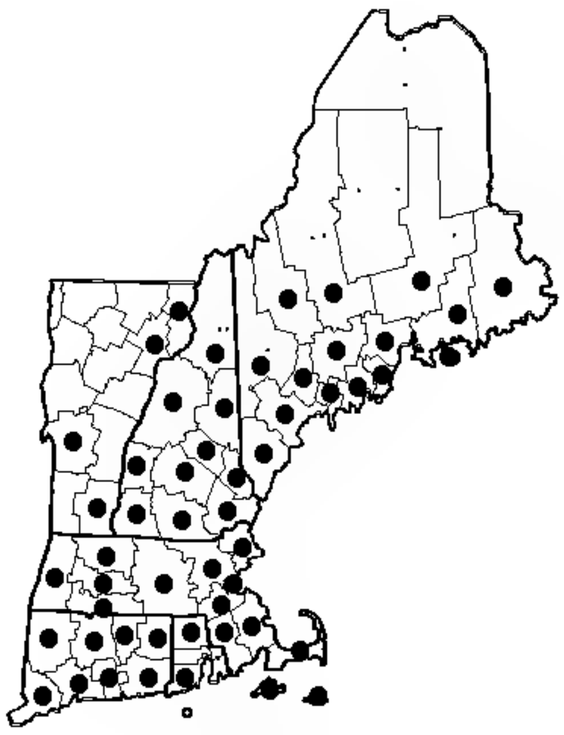


MAZUS PUMILUS

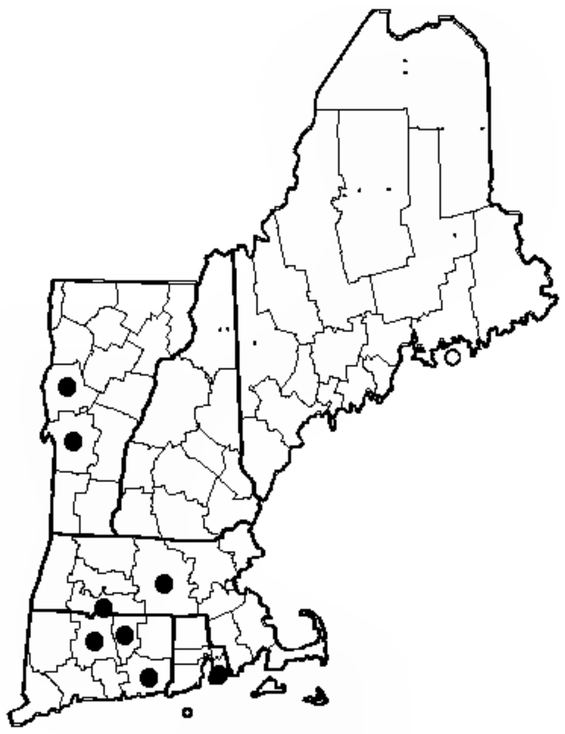


Menyanthes trifoliata

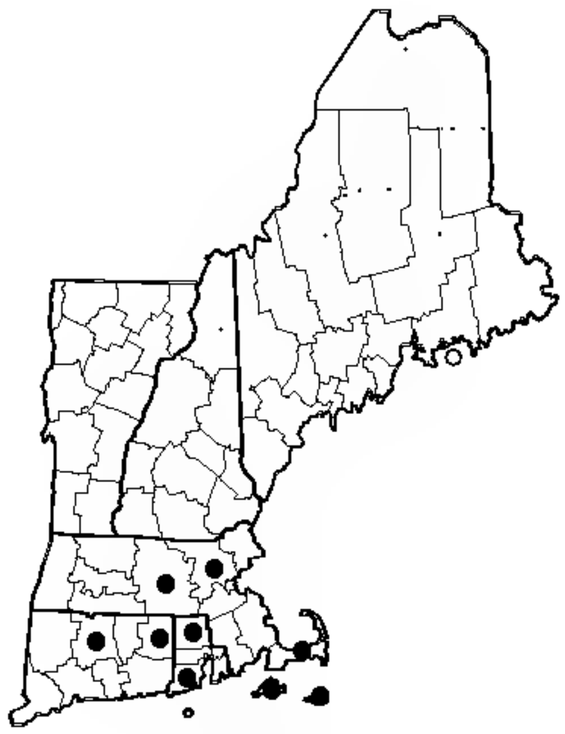
Figure 13 Distribution maps



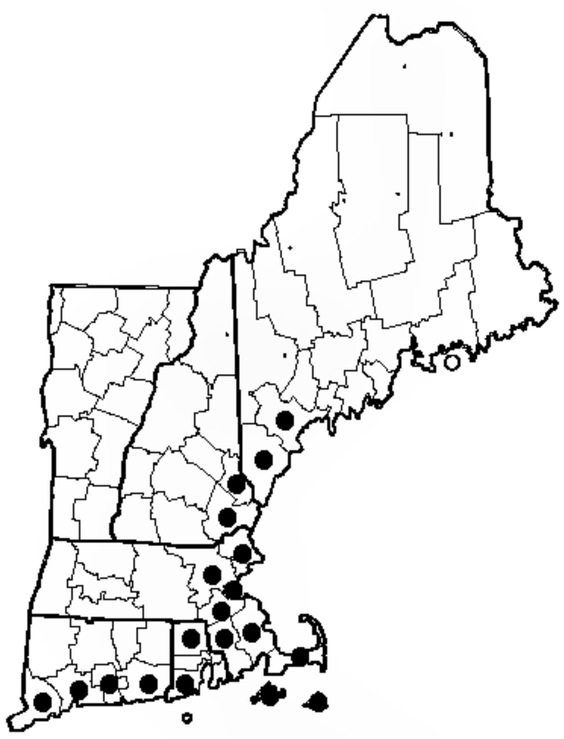
Nymphoides cordata



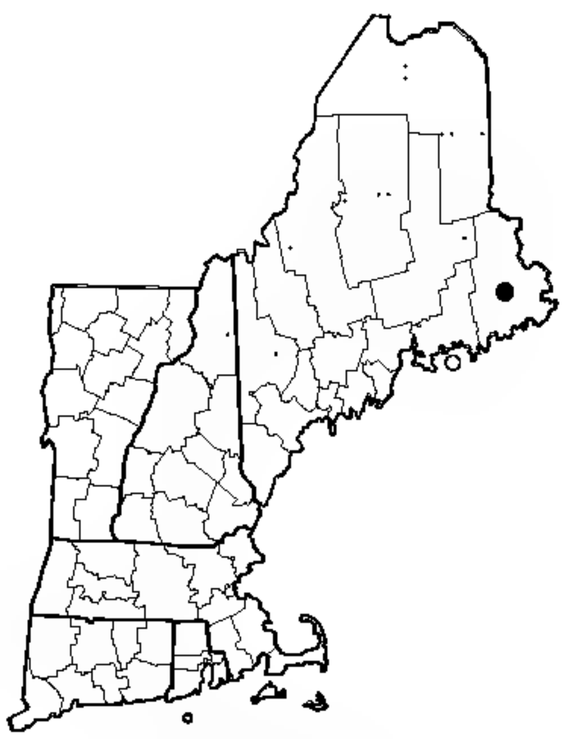
NYMPHOIDES PELTATA



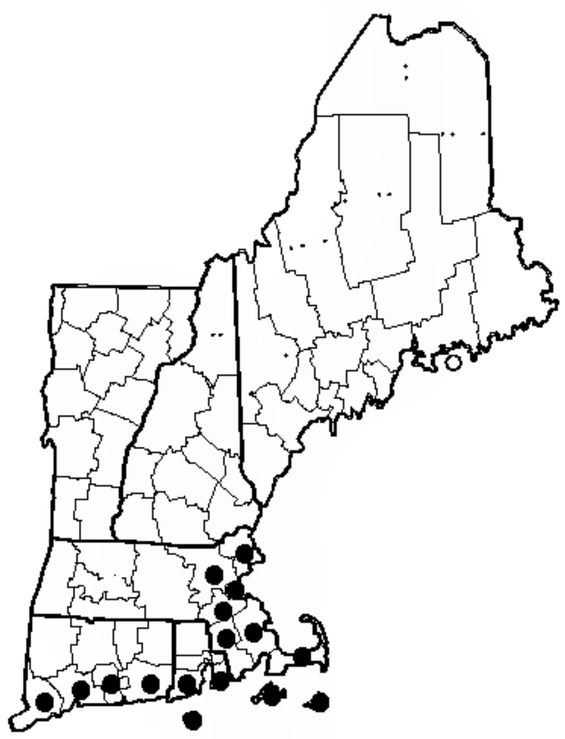
Agalinis decemloba



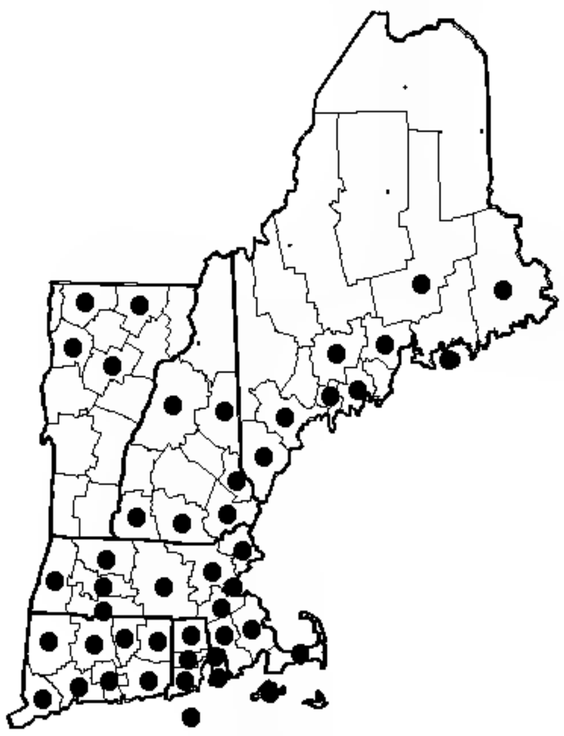
Agalinis maritima
var *maritima*



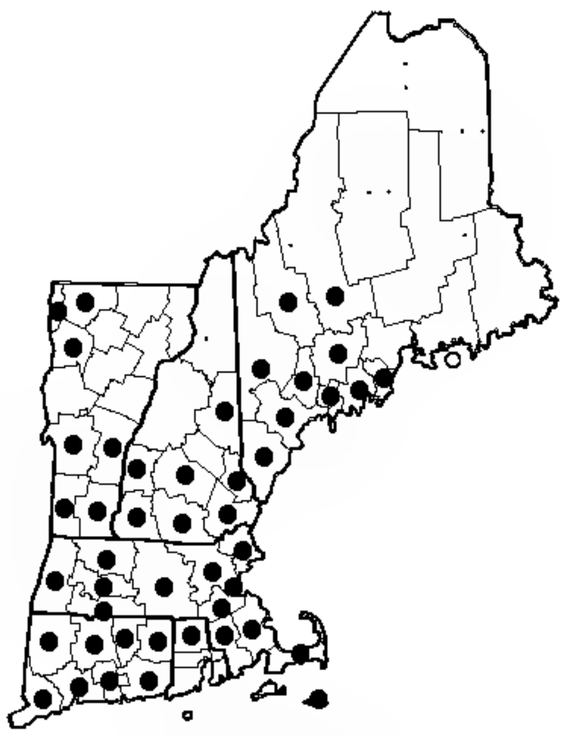
Agalinis neoscotica



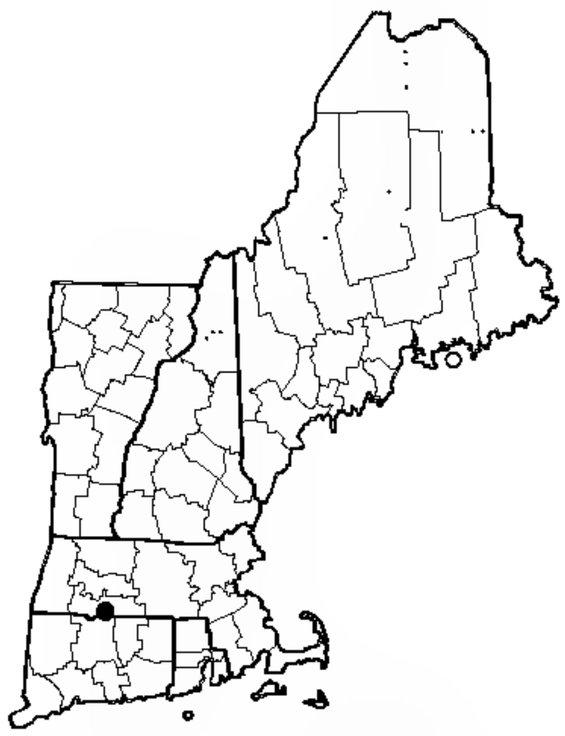
Agalinis purpurea
var *purpurea*



Agalinis purpurea
var *parviflora*

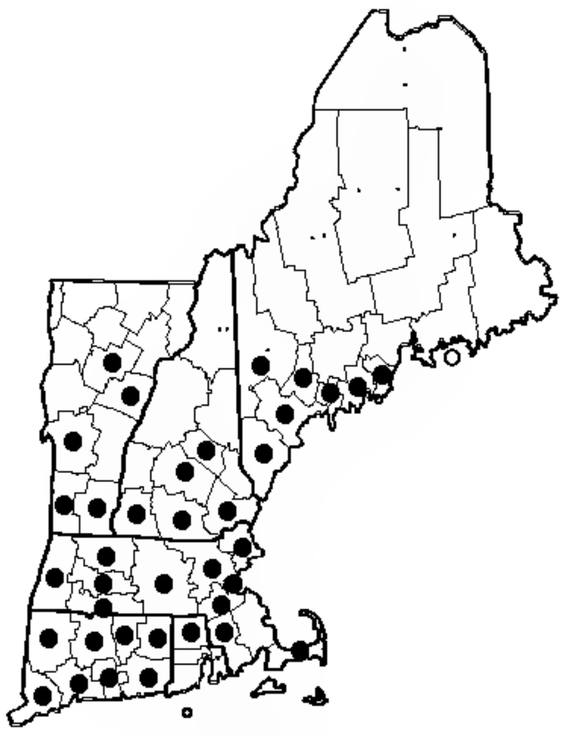


Agalinis tenuifolia

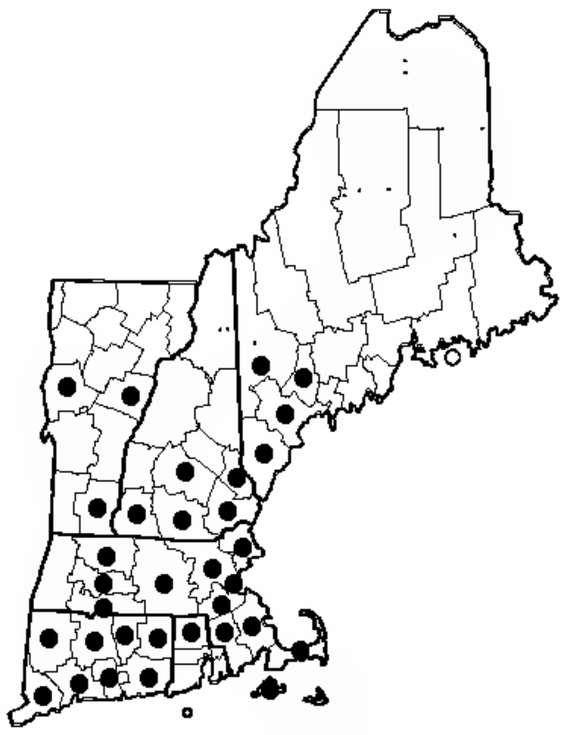


Agalinis purpurea var *parviflora*
X *A. tenuifolia*

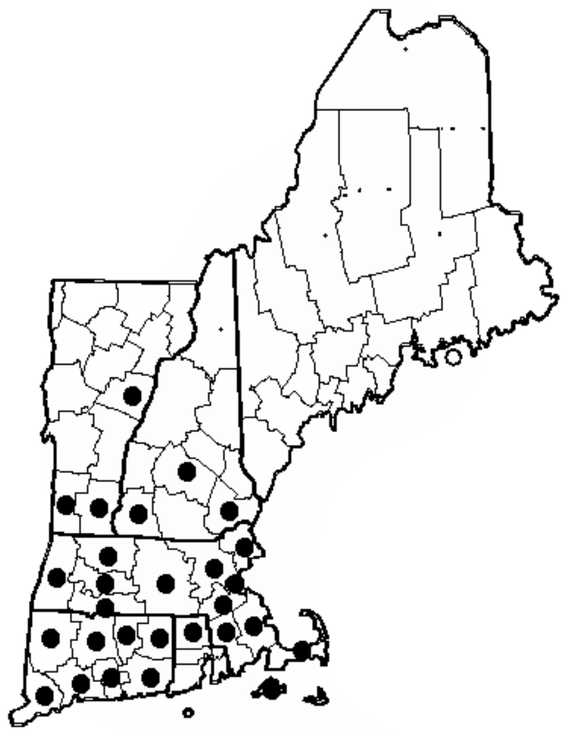
Figure 14 Distribution maps



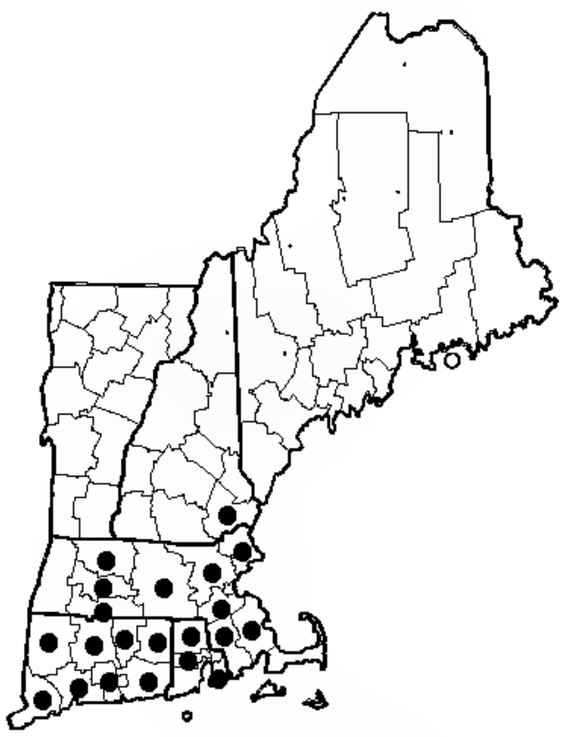
Aureolaria flava



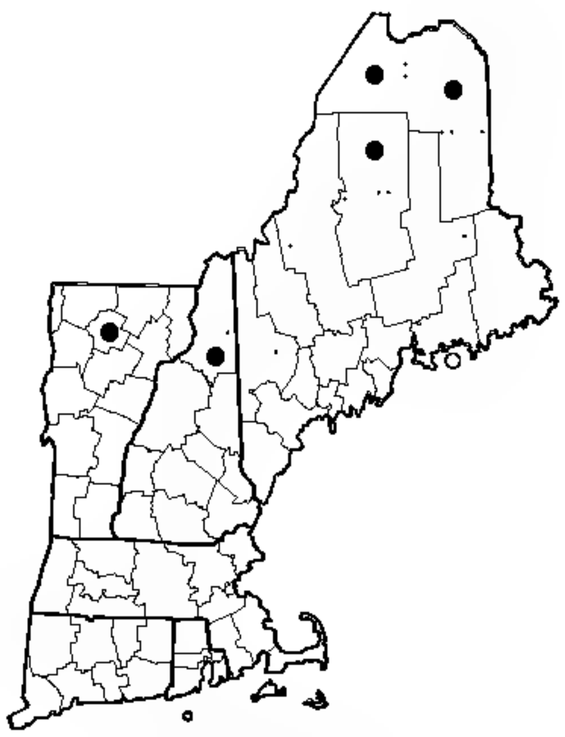
Aureolaria pedicularia



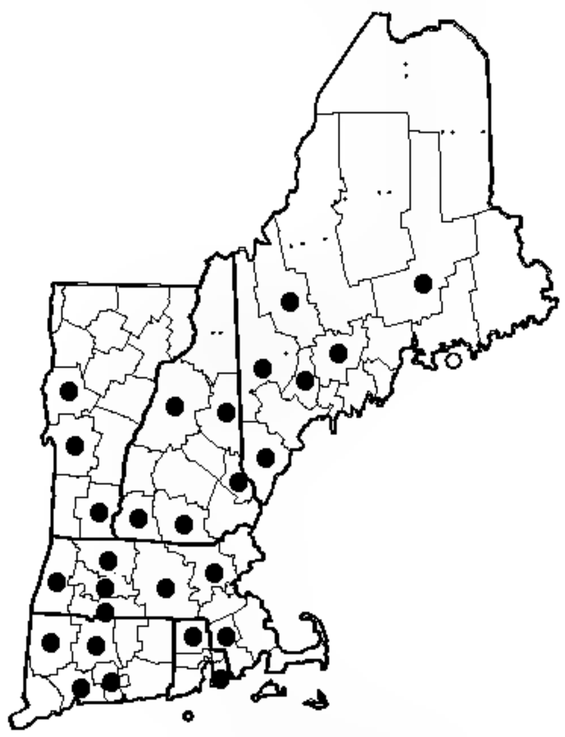
Aureolaria virginica



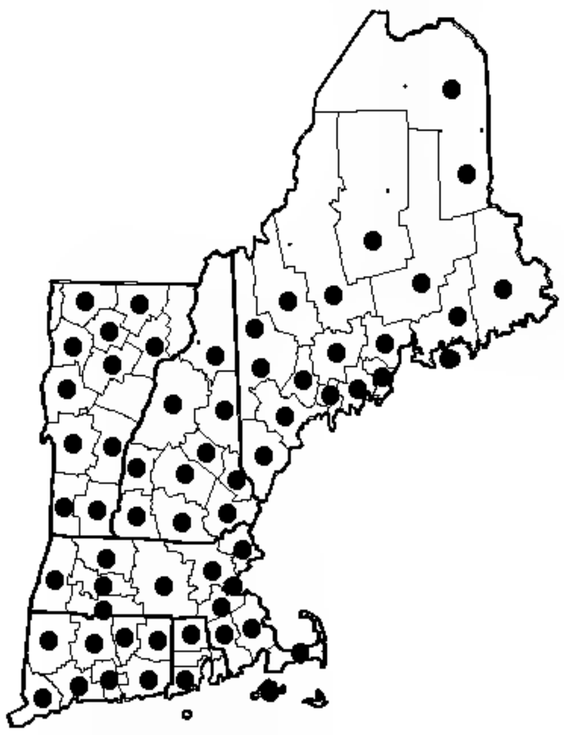
Castilleja coccinea



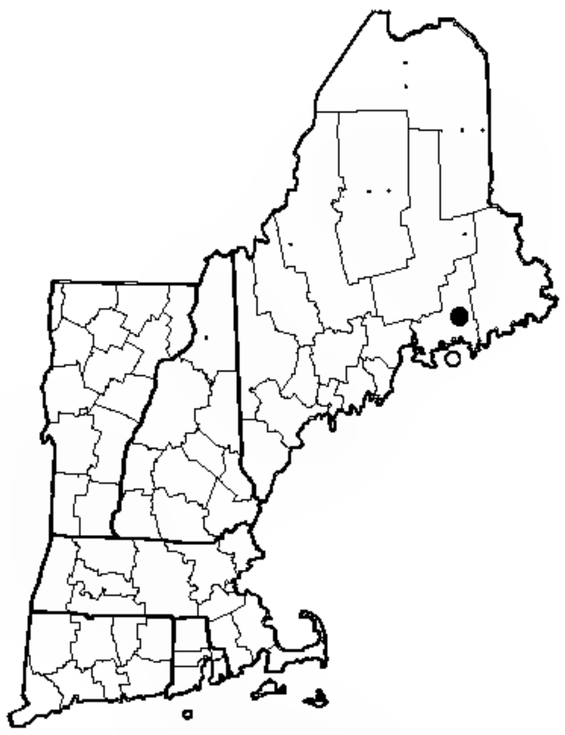
Castilleja septentrionalis



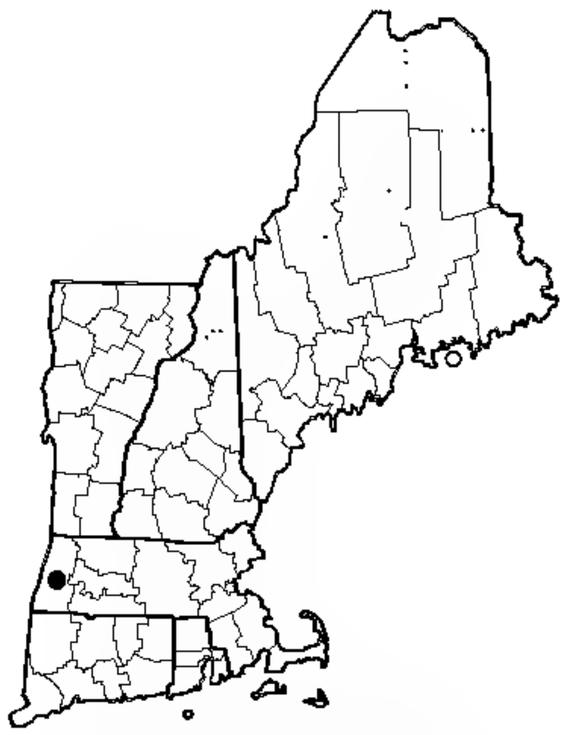
Conopholis americana



Epifagus virginiana

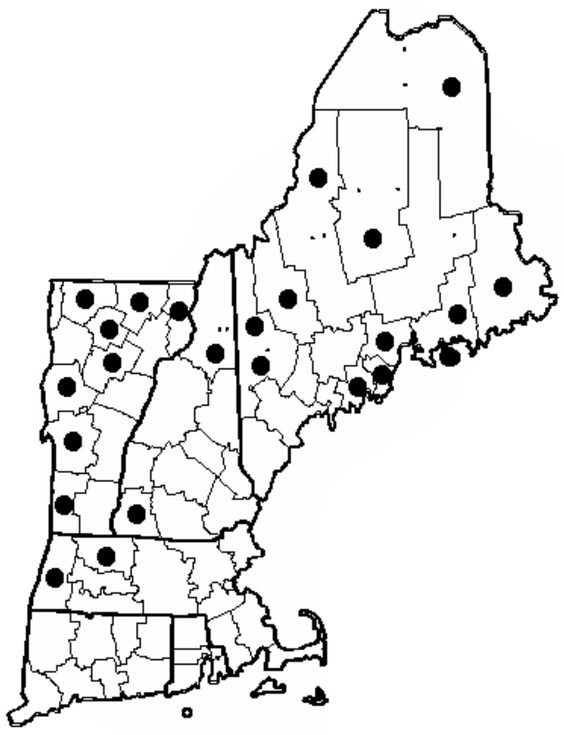


Euphrasia disjuncta

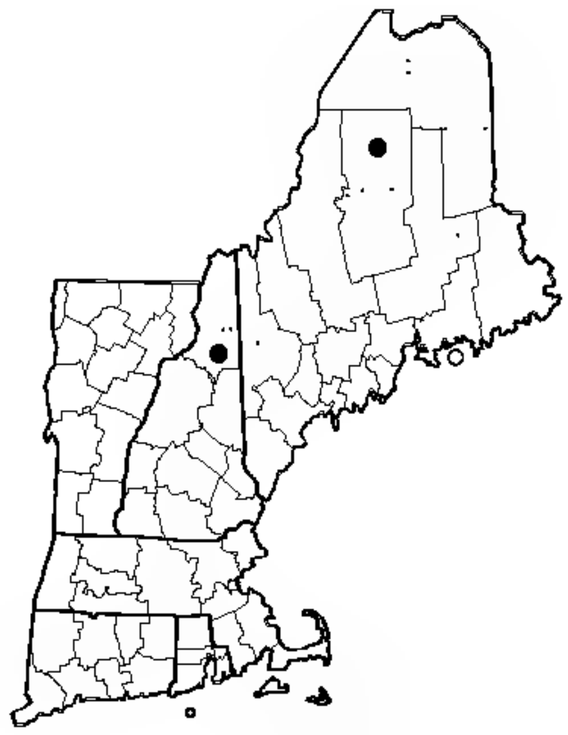


EUPHRASIA MICRANTHA

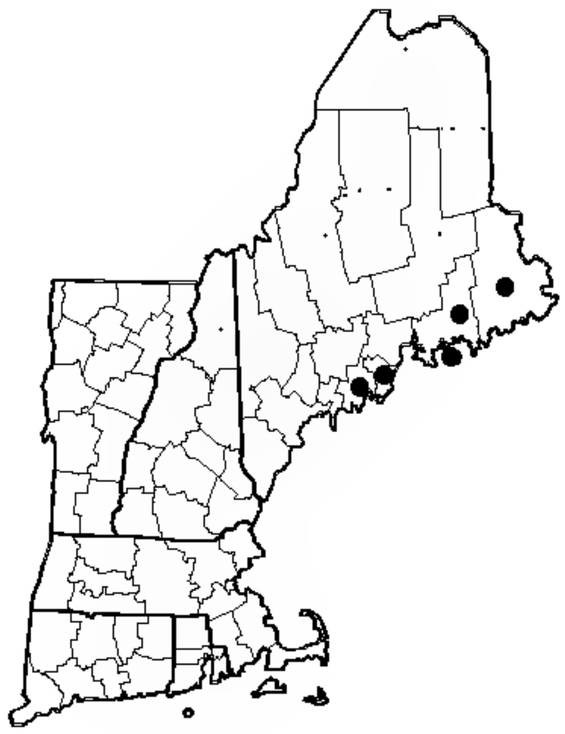
Figure 15 Distribution maps



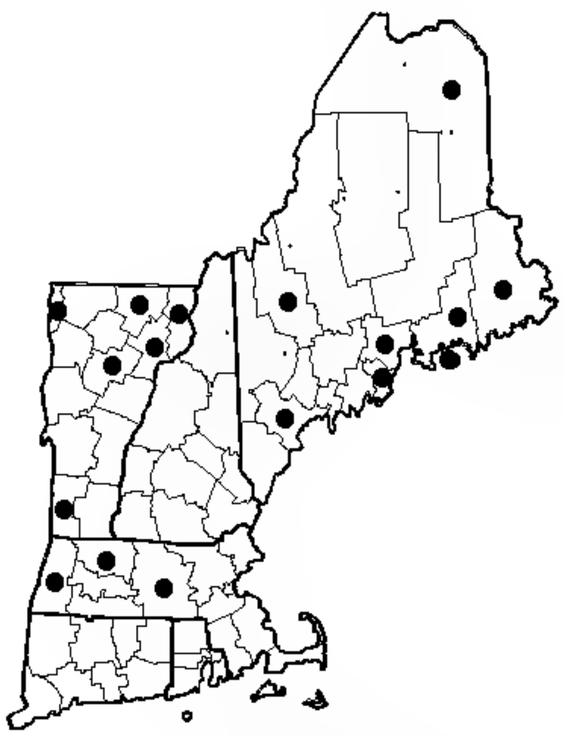
Euphrasia nemorosa



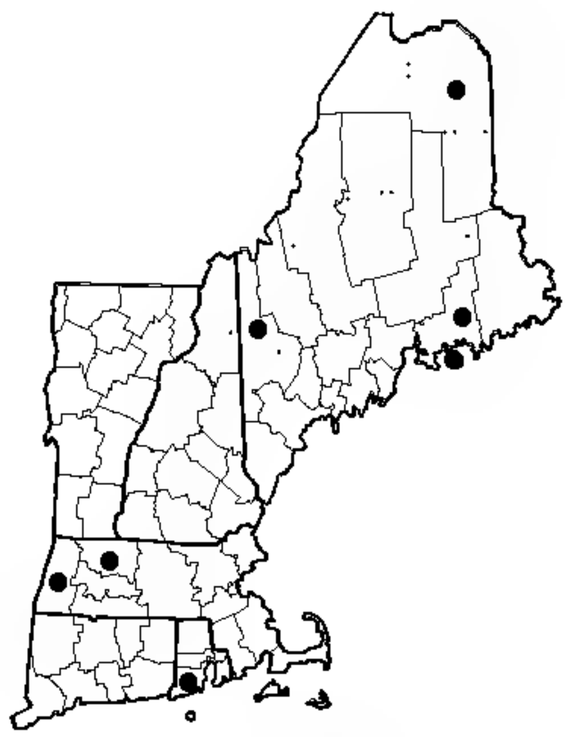
Euphrasia oakesii



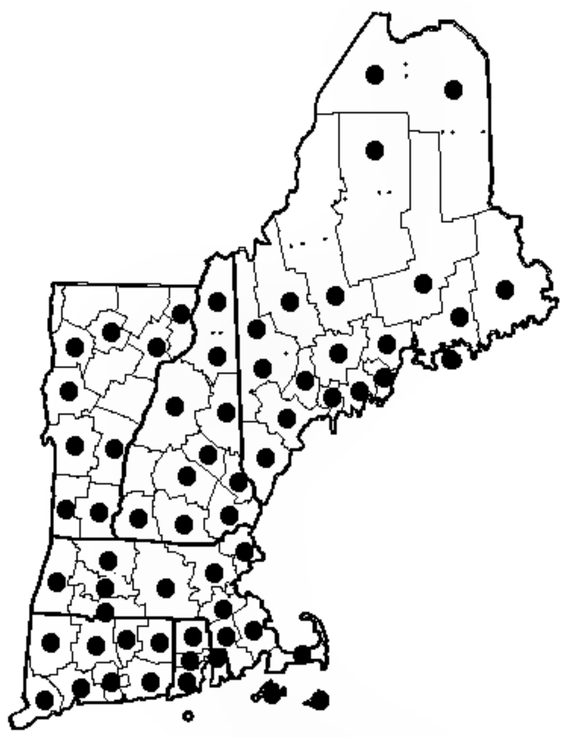
Euphrasia randii



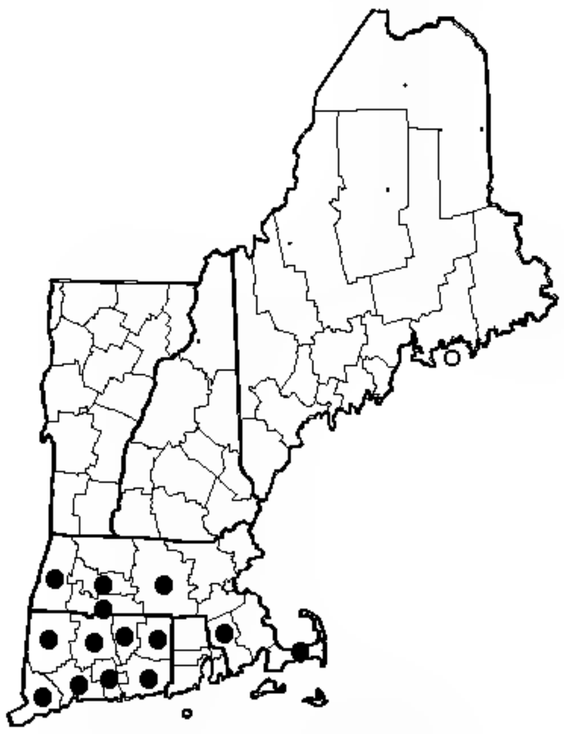
EUPHRASIA STRICTA



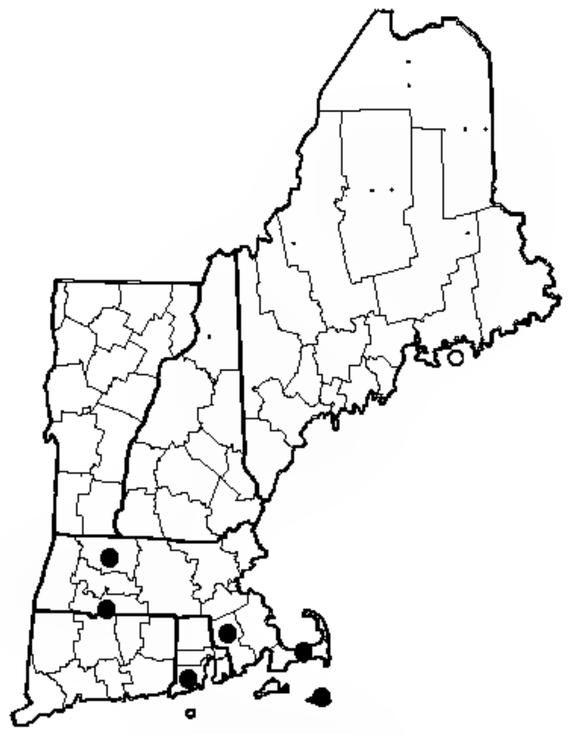
Euphrasia tetraquetra



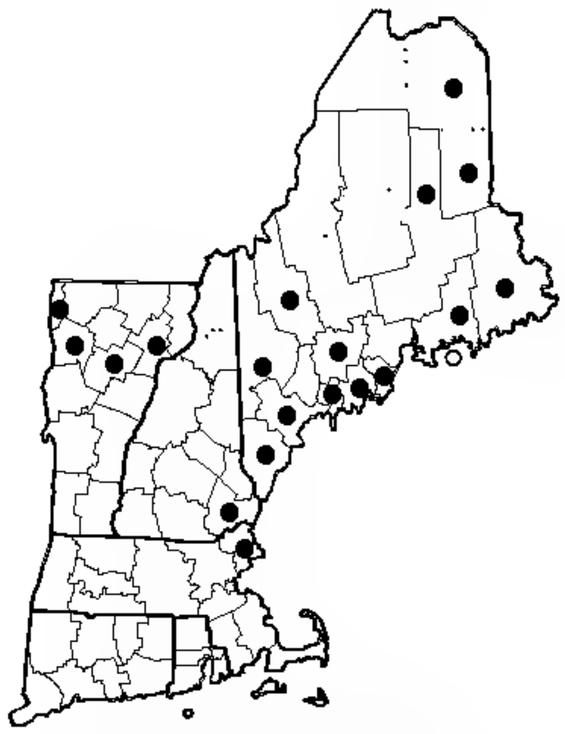
Melampyrum lineare
var *lineare*



Melampyrum lineare
var *latifolium*

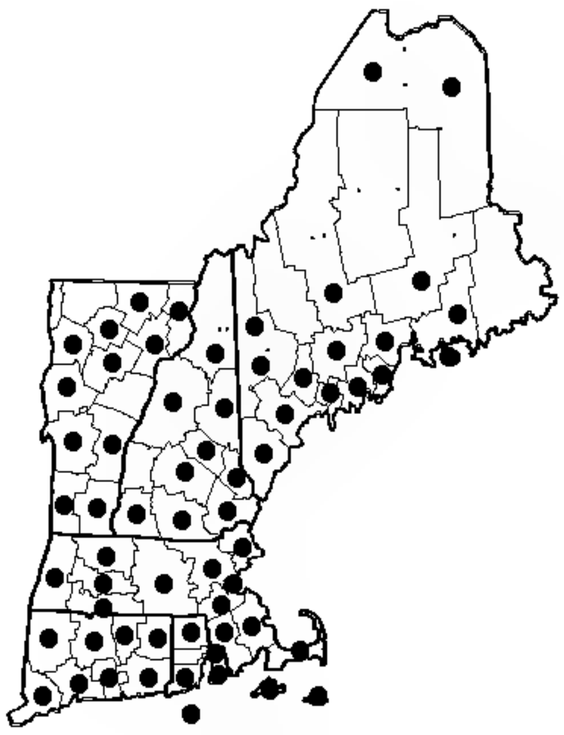


Melampyrum lineare
var *pectinatum*

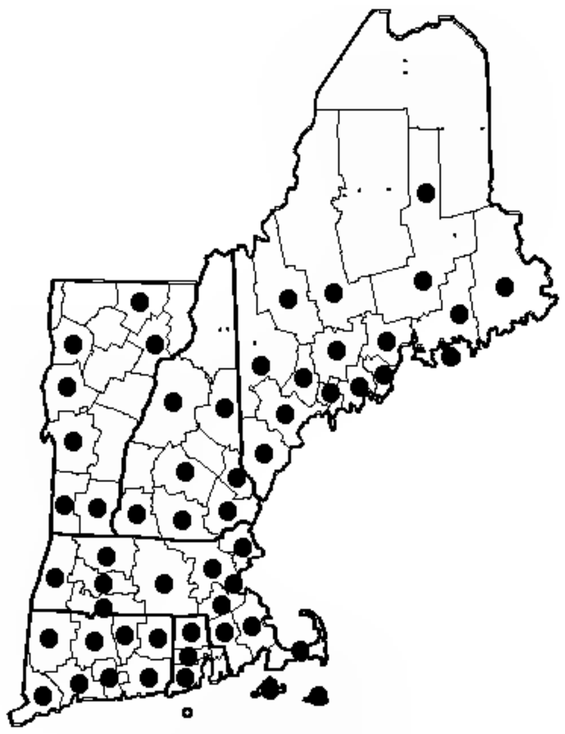


ODONTITES VULGARIS

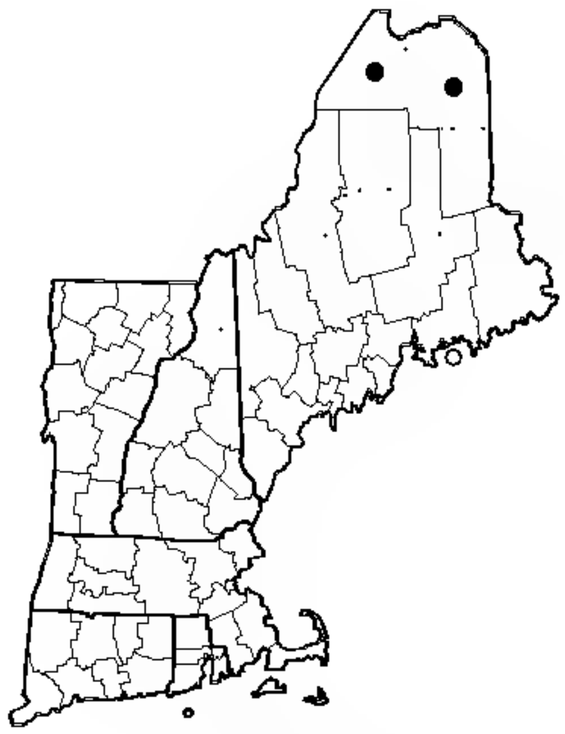
Figure 16 Distribution maps



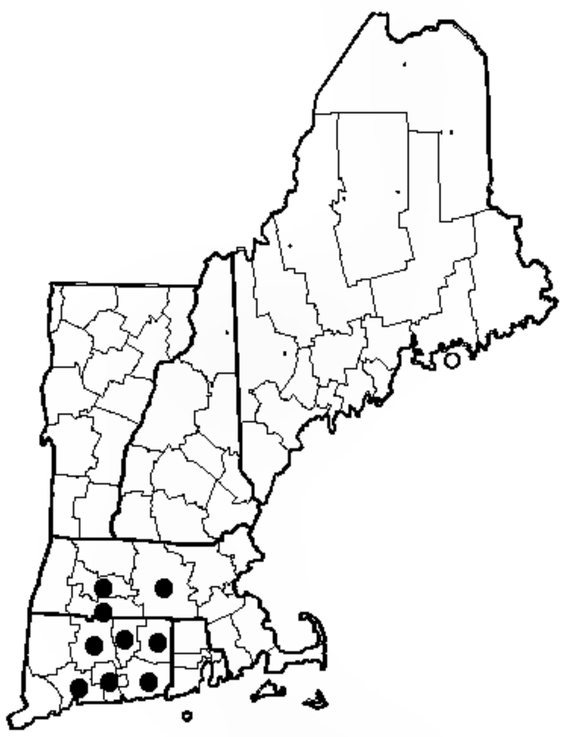
Orobanche uniflora



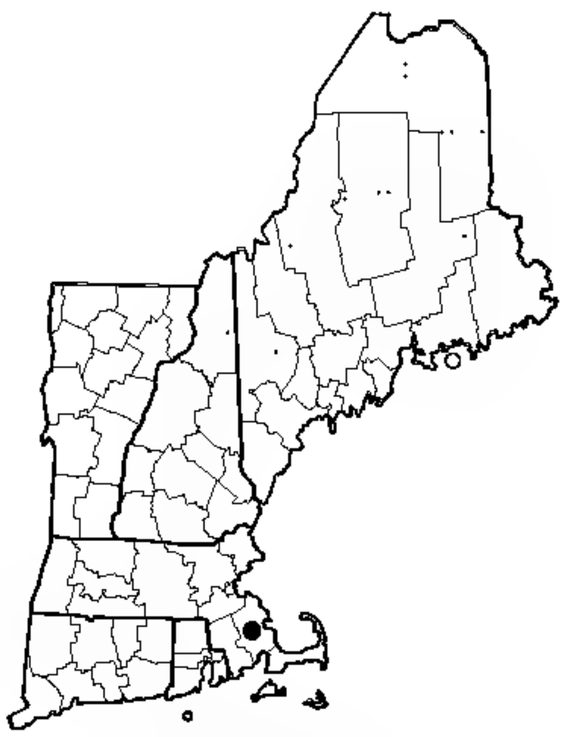
Pedicularis canadensis



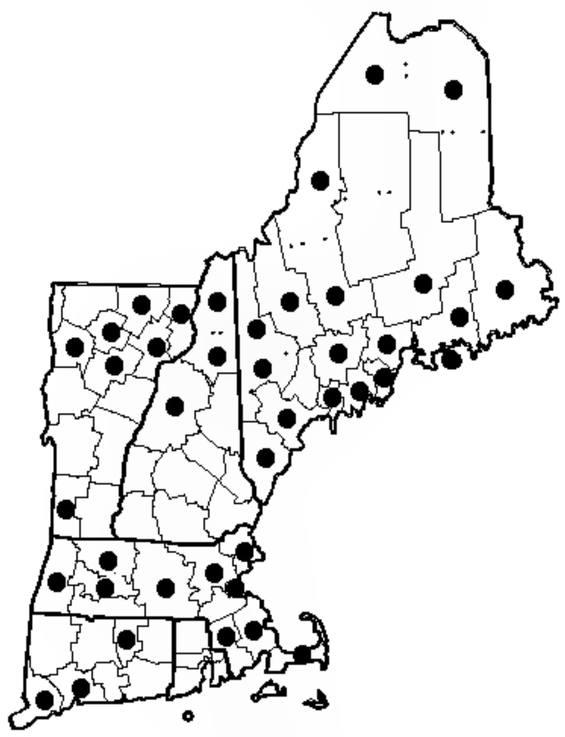
Pedicularis furbishiae



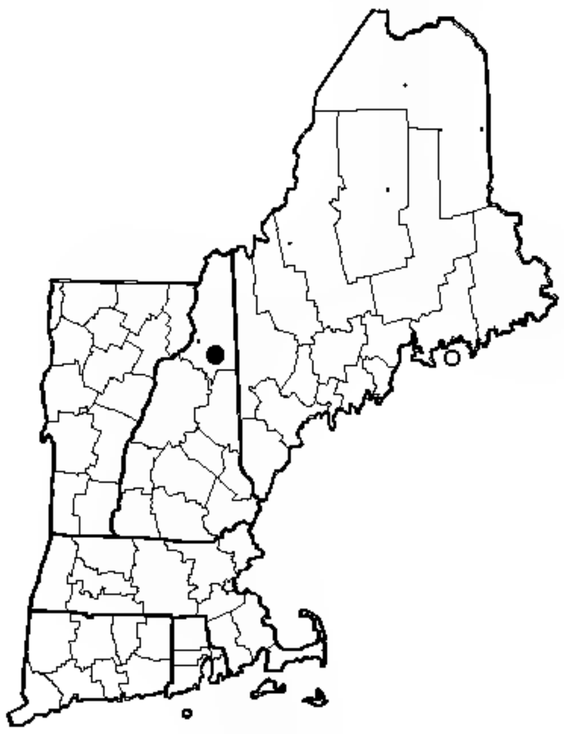
Pedicularis lanceolata



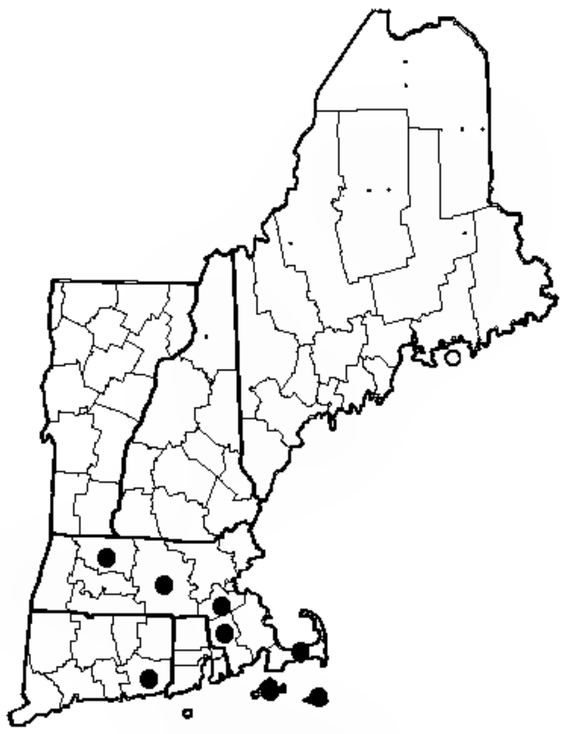
RHINANTHUS MAJOR



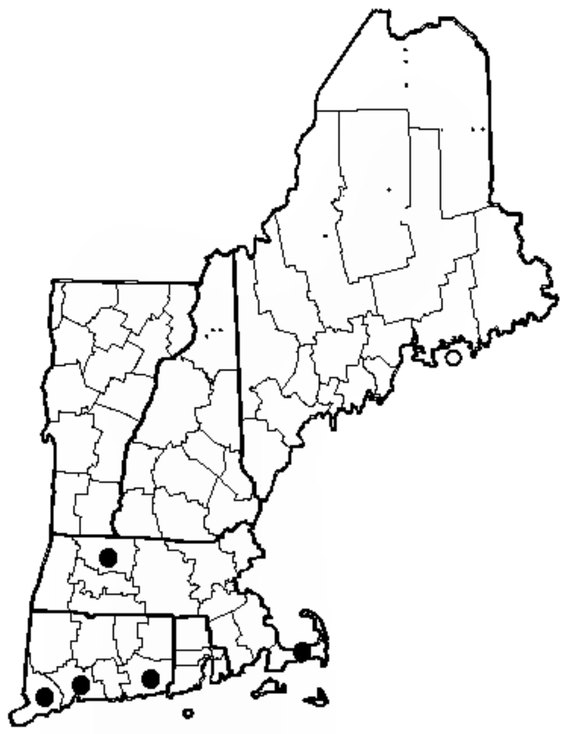
Rhinanthus minor
subsp. *minor*



Rhinanthus minor
subsp. *groenlandicus*

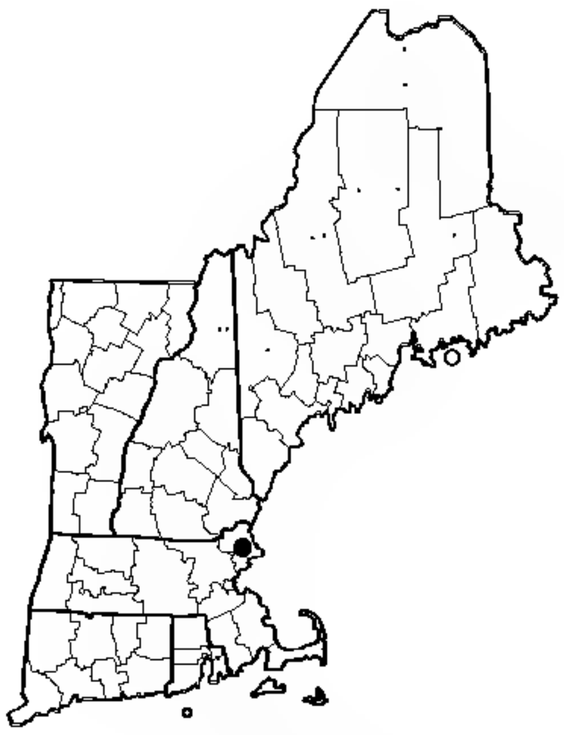


Schwalbea americana

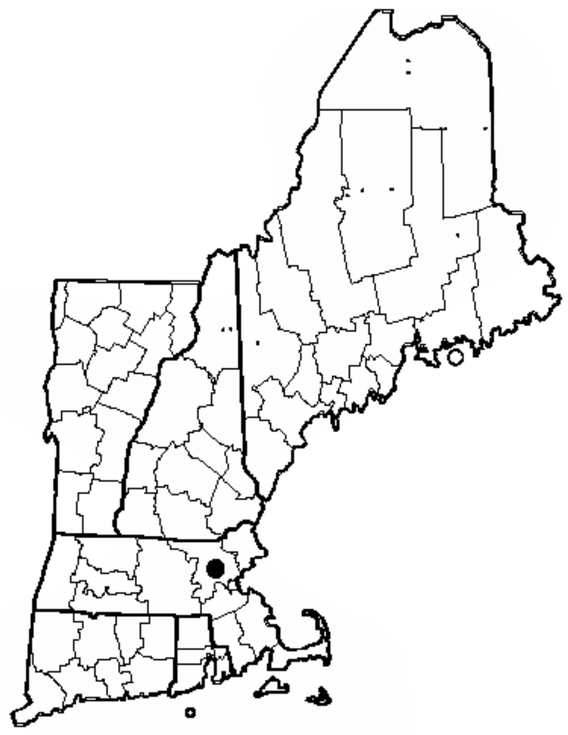


PAULOWNIA TOMENTOSA

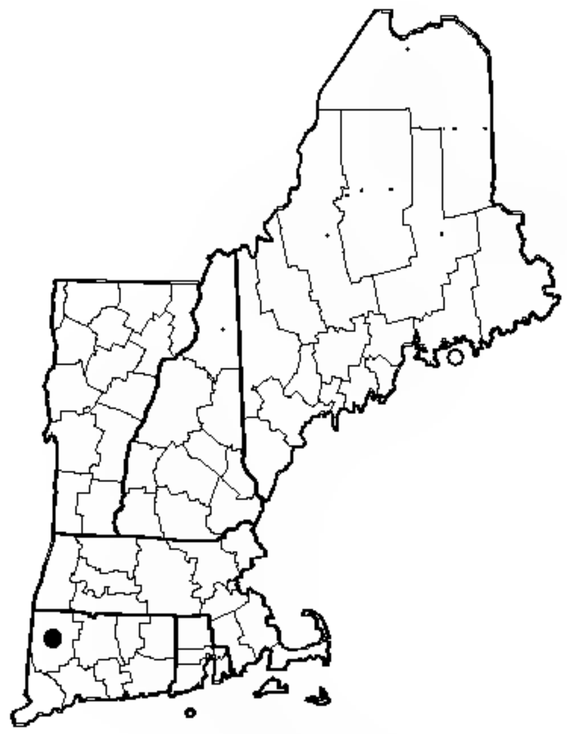
Figure 17 Distribution maps



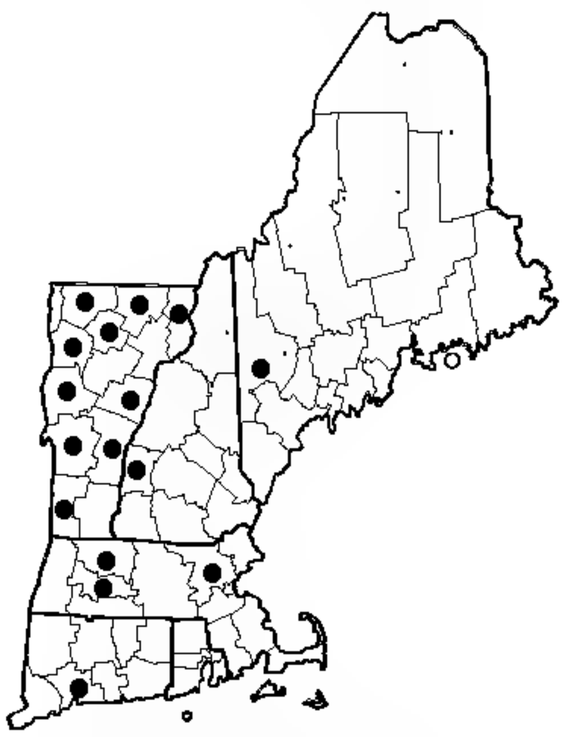
SESAMUM INDICUM



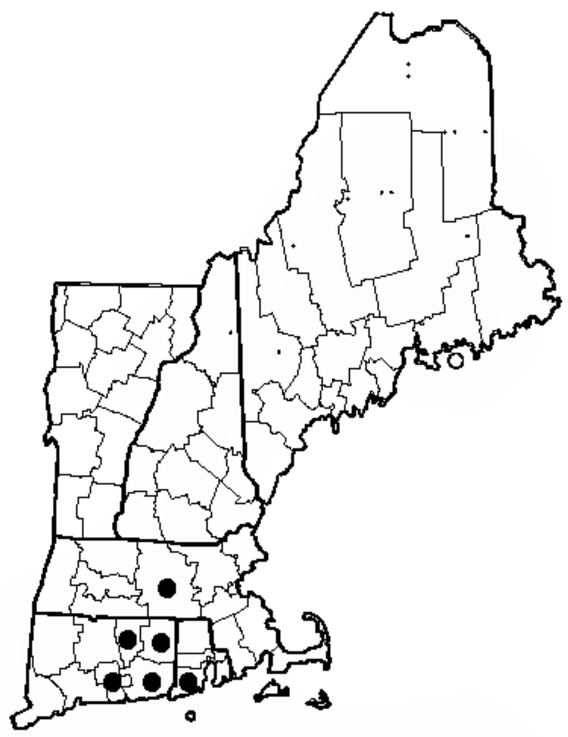
DIPLACUS BREVIPES



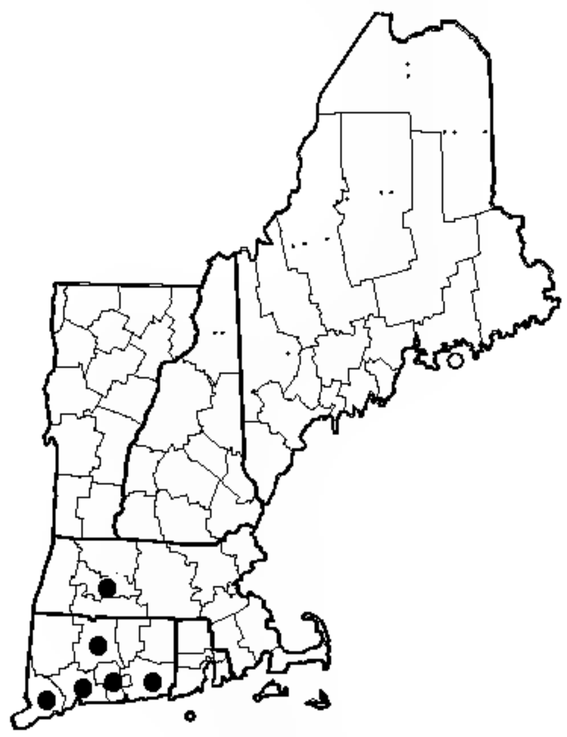
ERYTHRANTHE GUTTATA



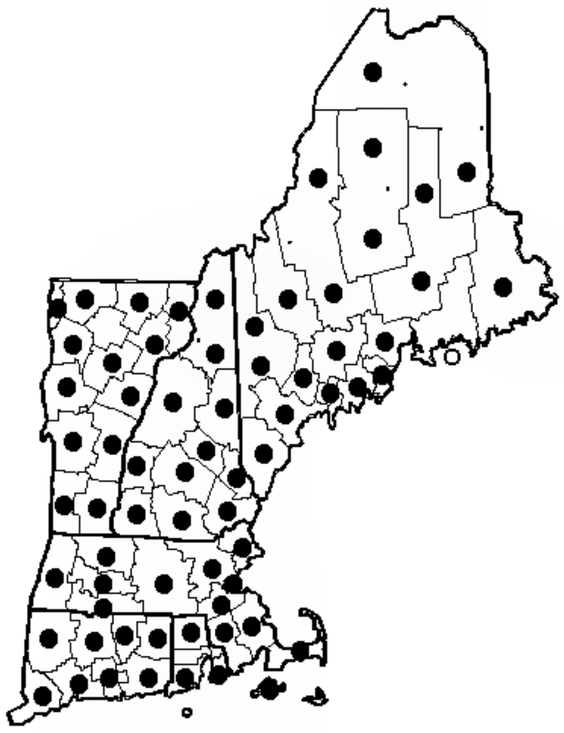
ERYTHRANTHE MOSCHATA



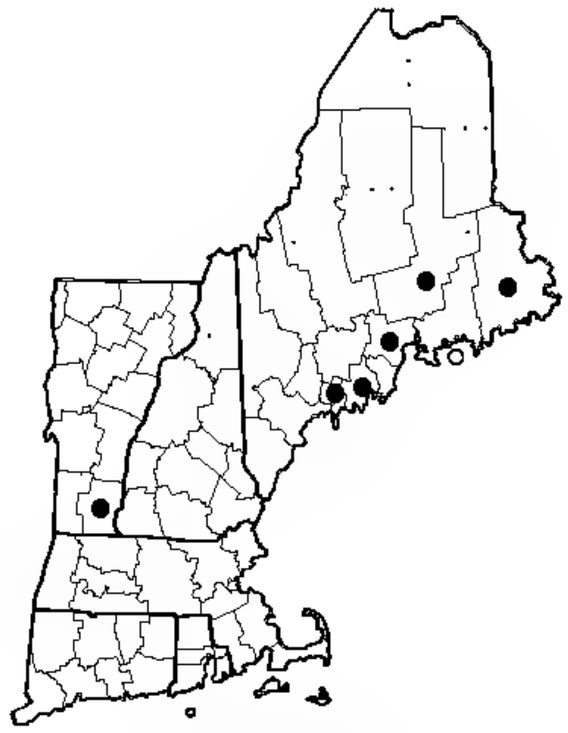
GLOSSOSTIGMA CLEISTANTHUM



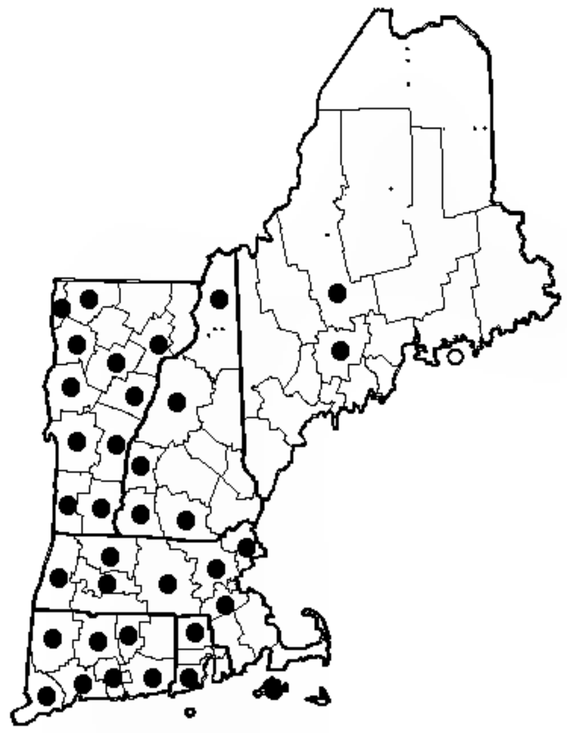
Mimulus alatus



Mimulus ringens
var *ringens*

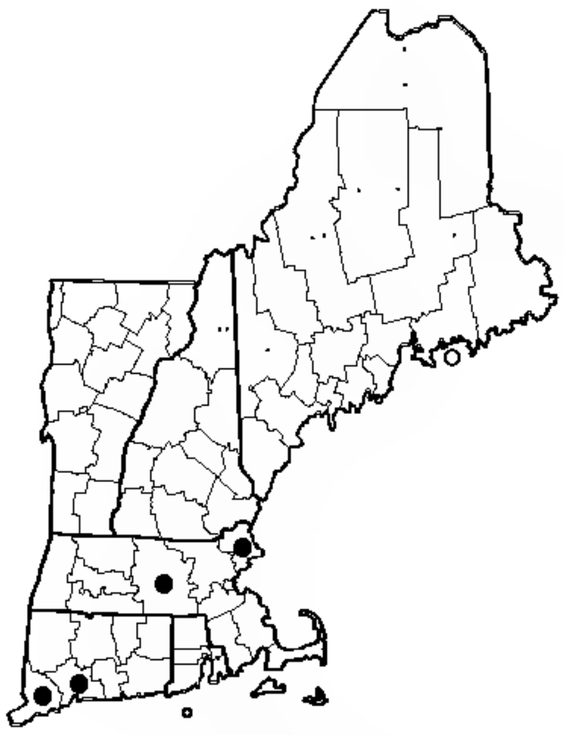


Mimulus ringens
var *colpophilus*

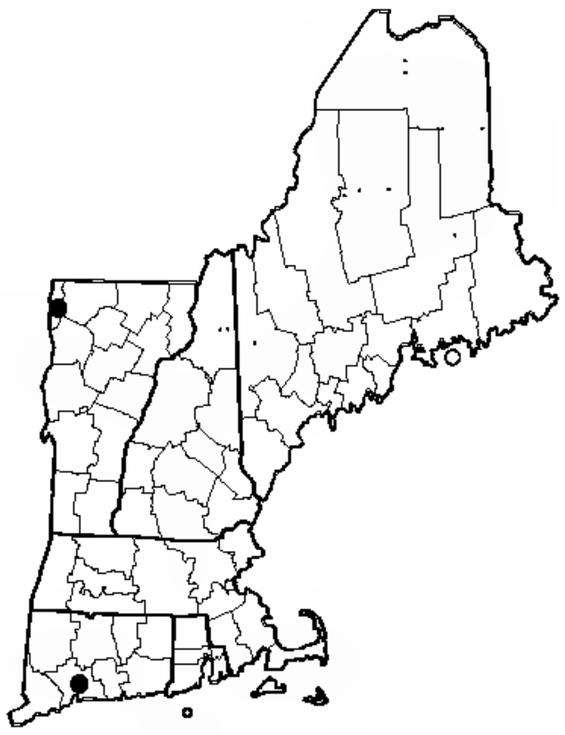


Phryma leptostachya
var *leptostachya*

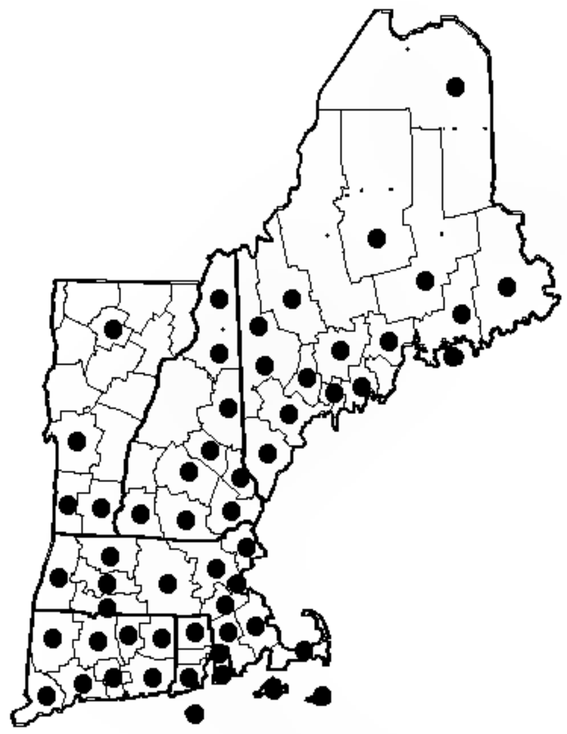
Figure 18 Distribution maps



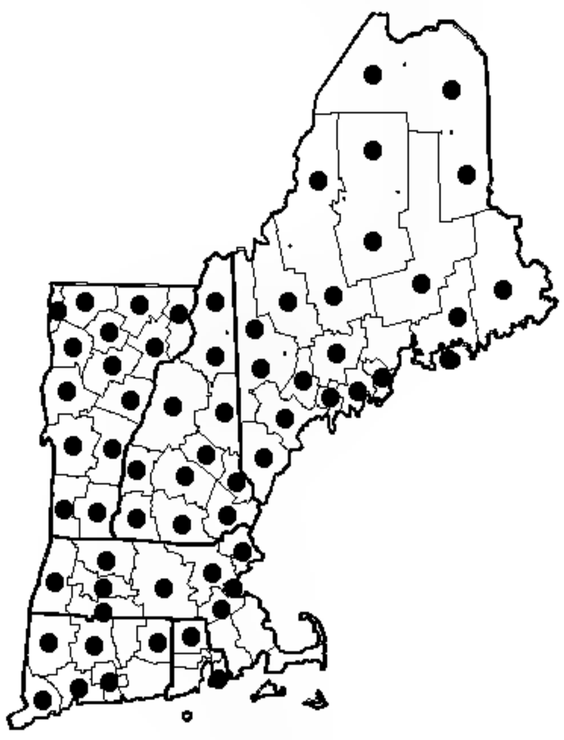
ANTIRRHINUM MAJUS



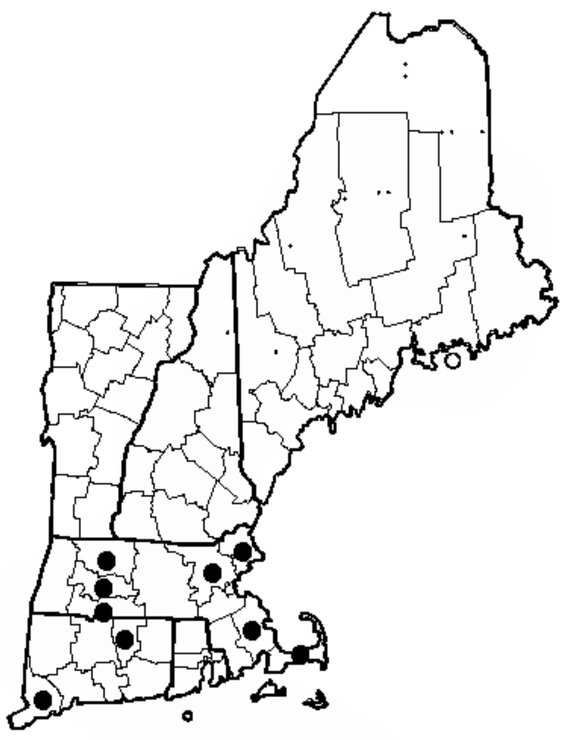
Callitriche hermaphroditica



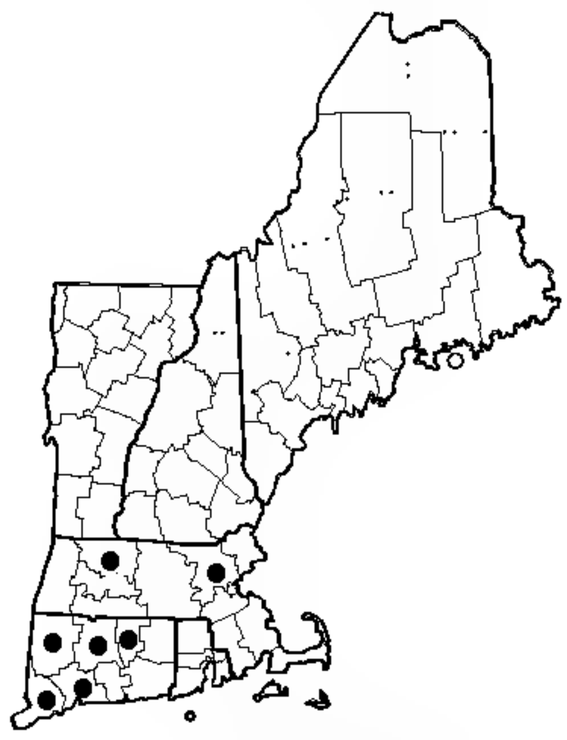
Callitriche heterophylla
var *heterophylla*



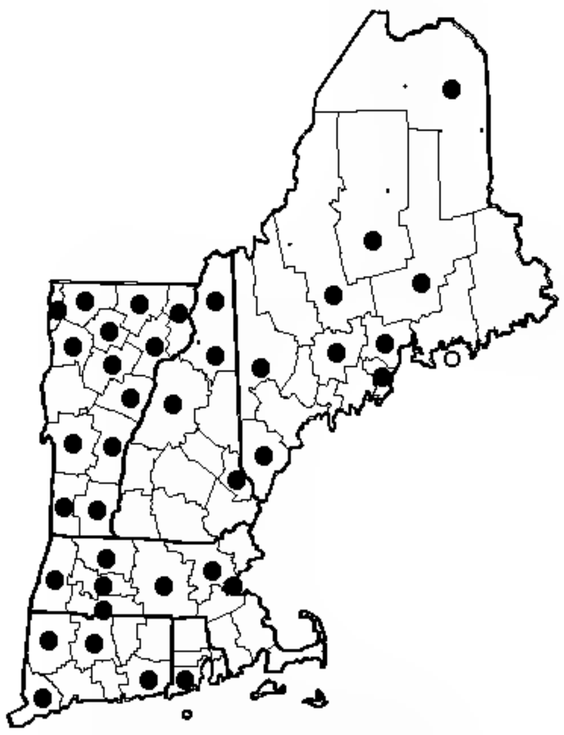
Callitriche palustris



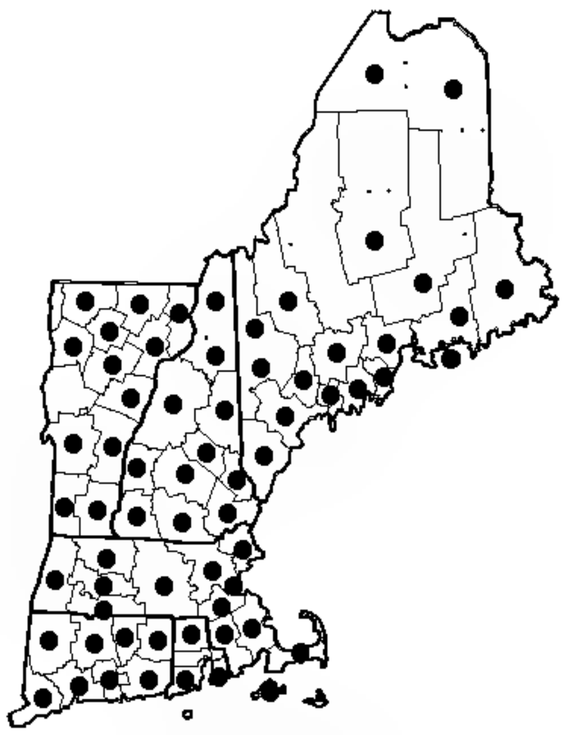
CALLITRICHE STAGNALIS



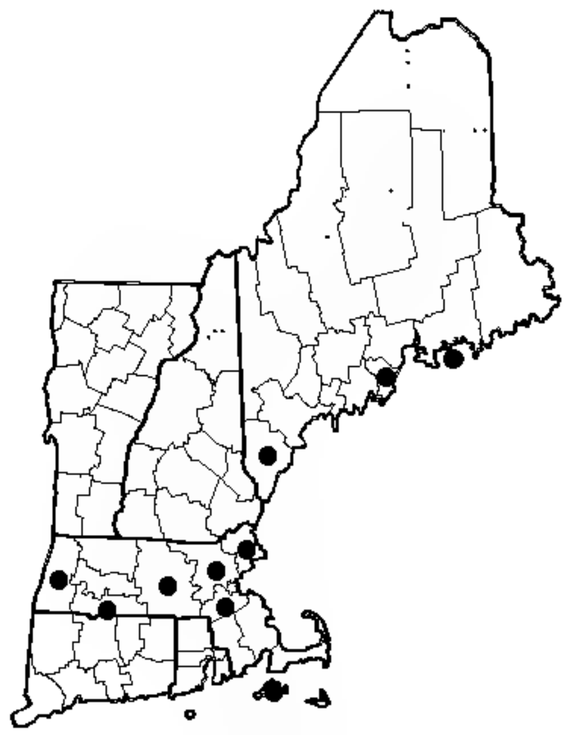
Callitriche terrestris



CHAENORHINUM MINUS
subsp. *MINUS*

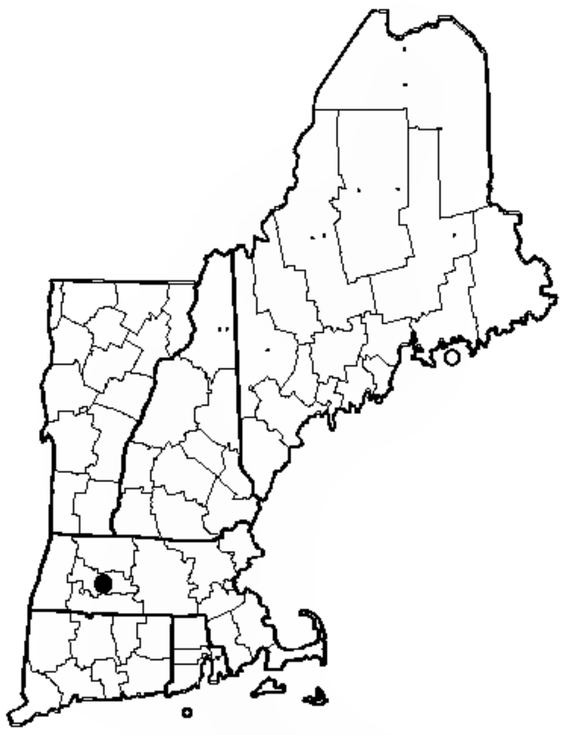


Chelone glabra

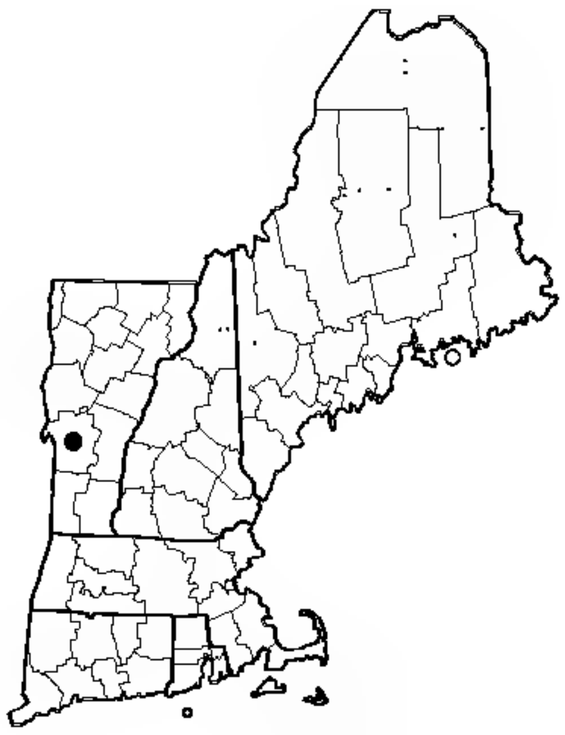


CHELONE LYONII

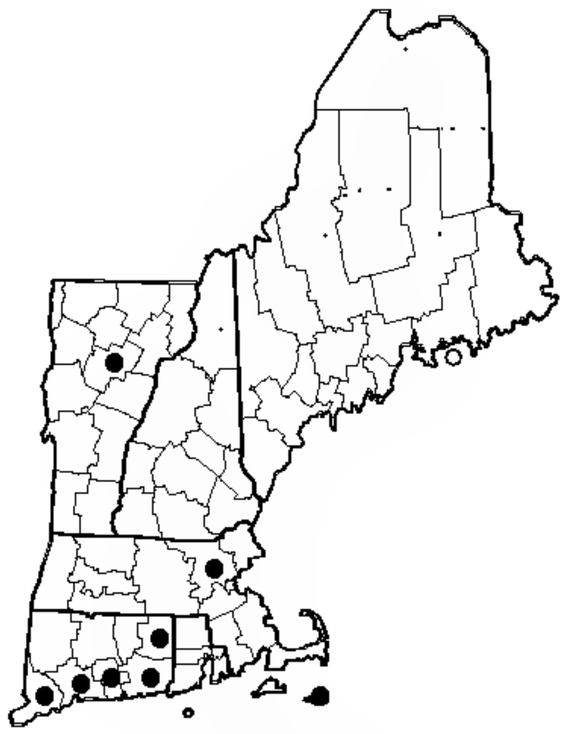
Figure 19 Distribution maps



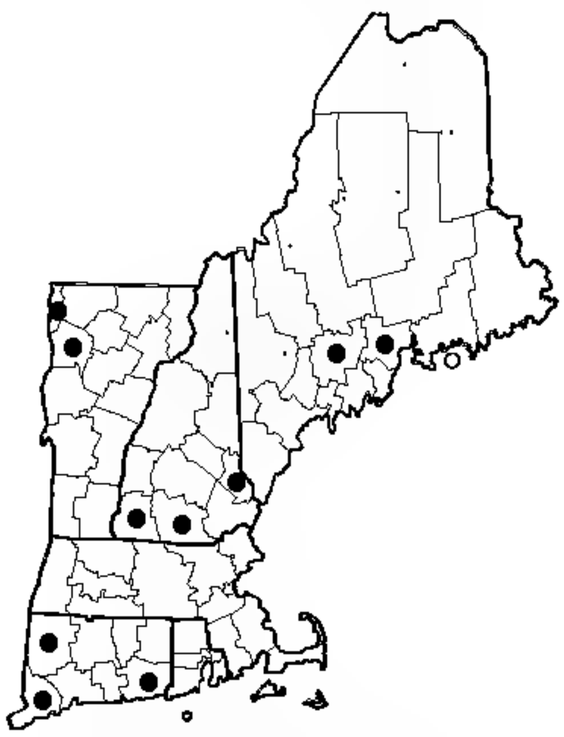
CHELONE OBLIQUA
var *OBLIQUA*



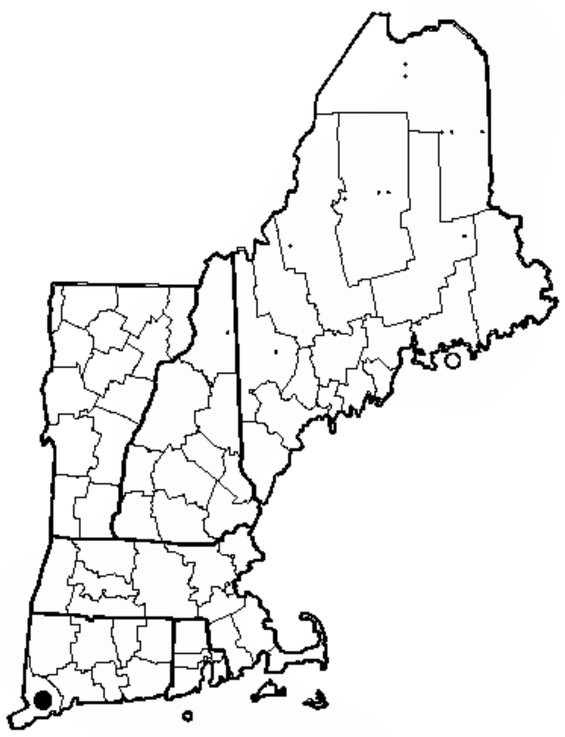
Collinsia parviflora



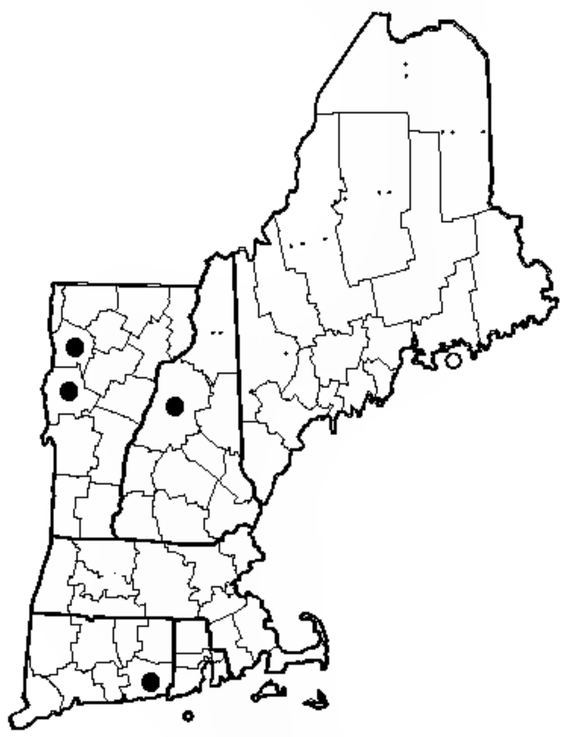
CYMBALARIA MURALIS



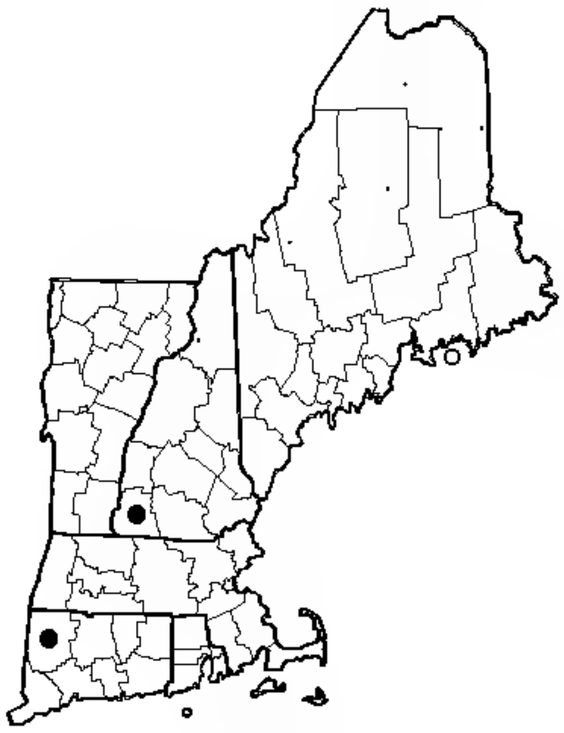
DIGITALIS GRANDIFLORA



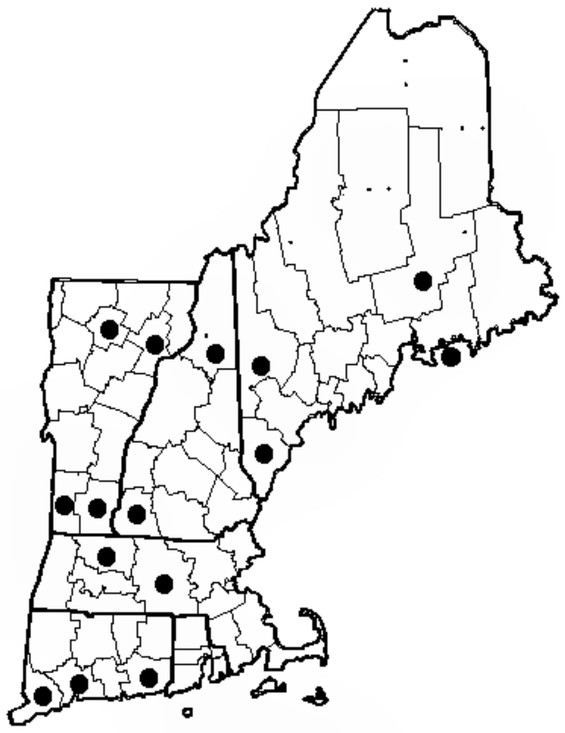
DIGITALIS LAEVIGATA



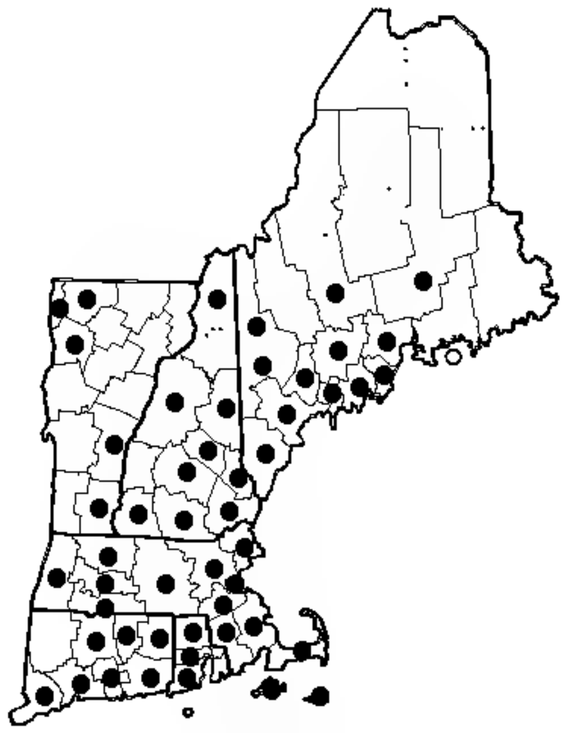
DIGITALIS LANATA



DIGITALIS LUTEA

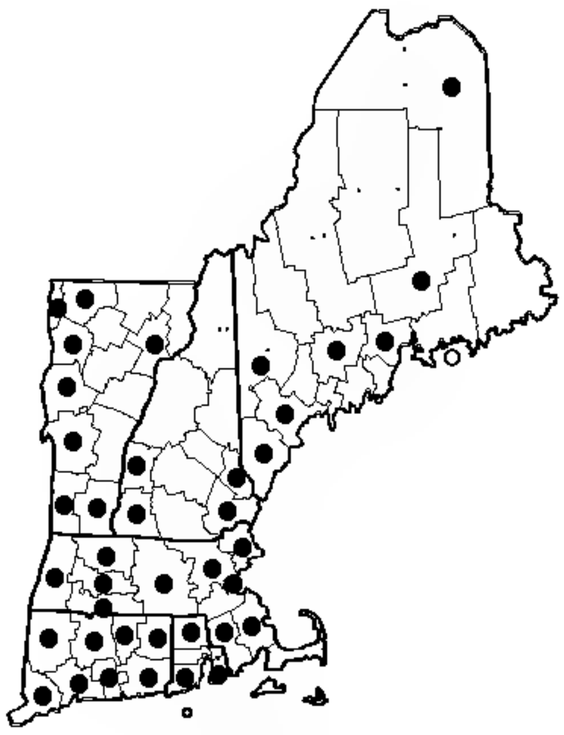


DIGITALIS PURPUREA

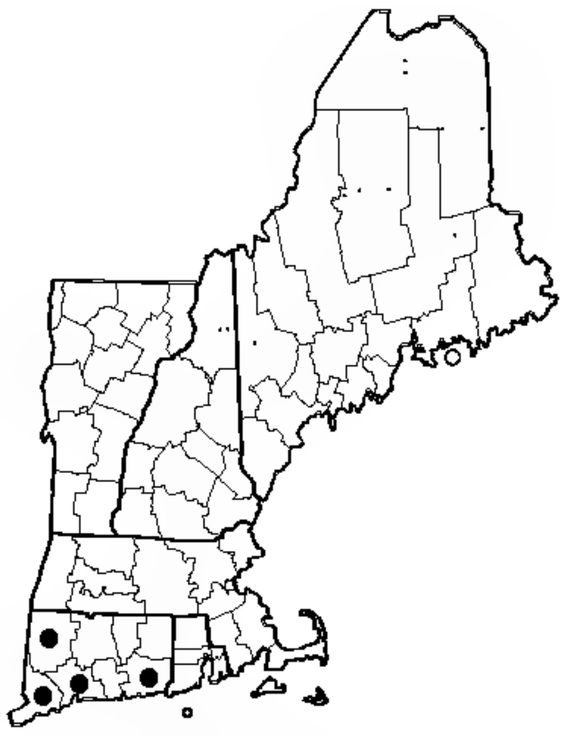


Gratiola aurea

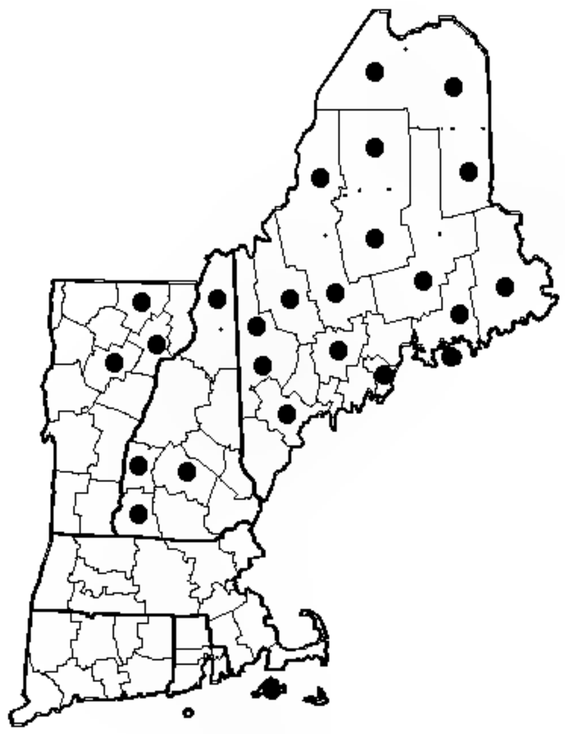
Figure 20 Distribution maps



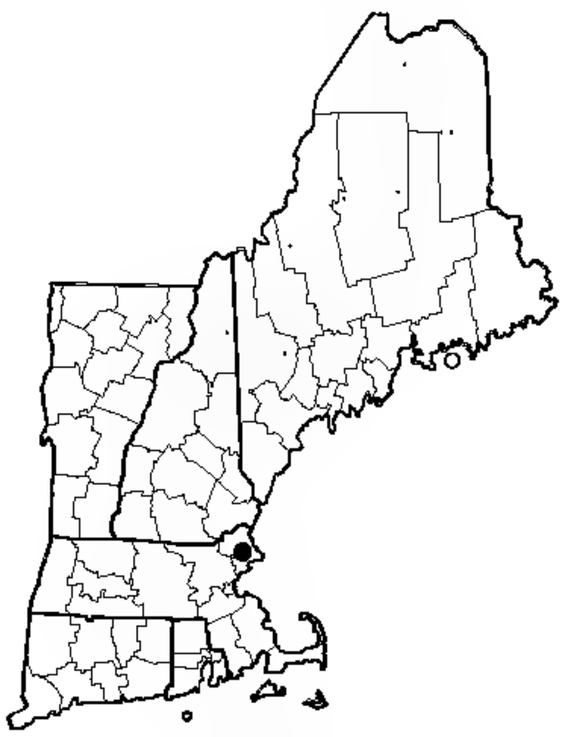
Gratiola neglecta



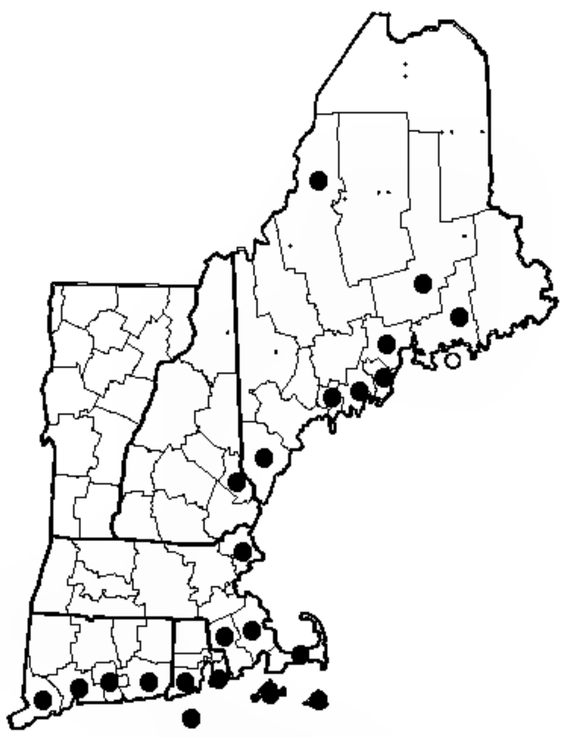
GRATIOLA VIRGINIANA
var *VIRGINIANA*



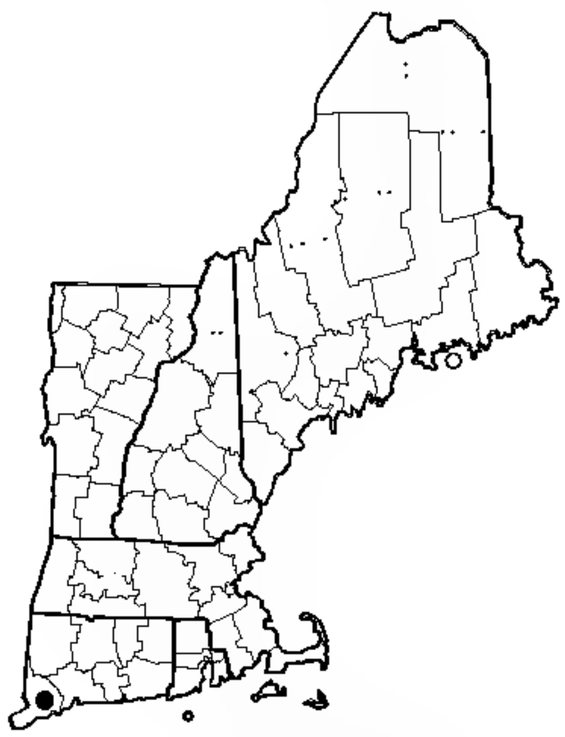
Hippuris vulgaris



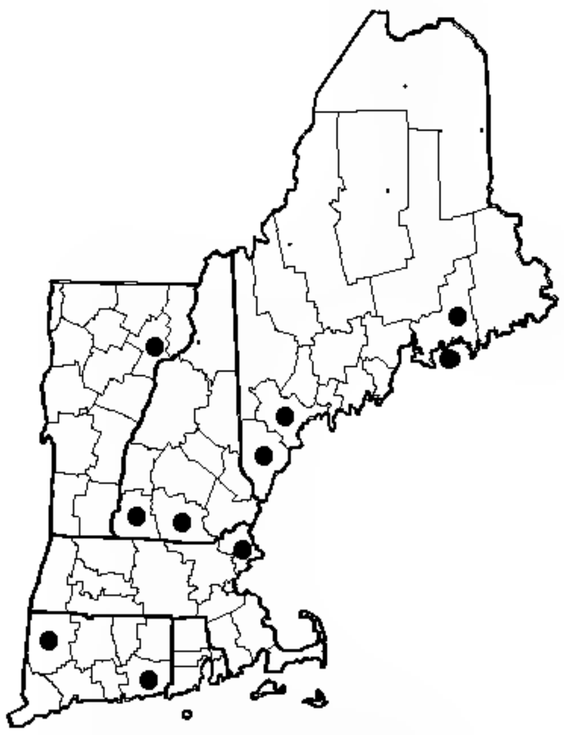
KICKXIA ELATINE



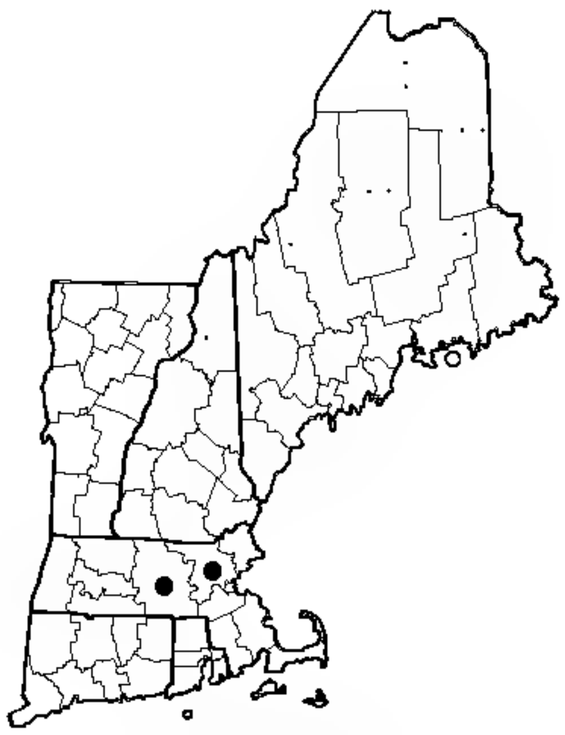
Limosella australis



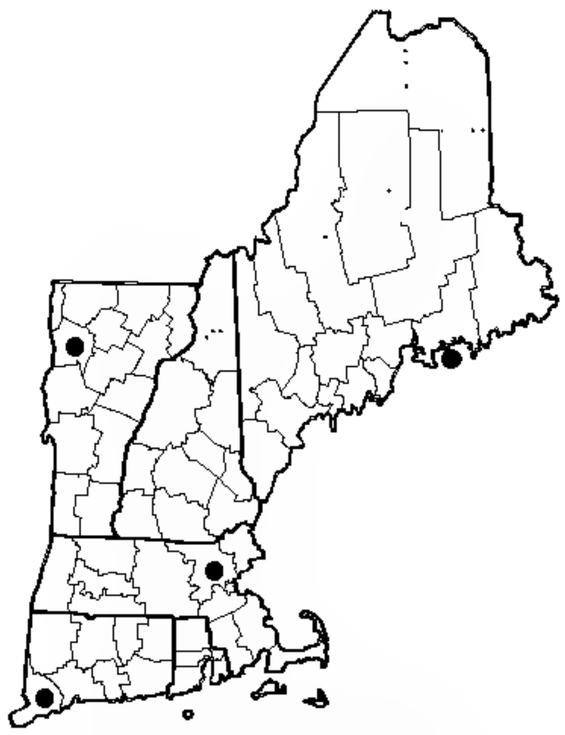
LINARIA BIPARTITA



LINARIA DALMATICA
subsp. *DALMATICA*

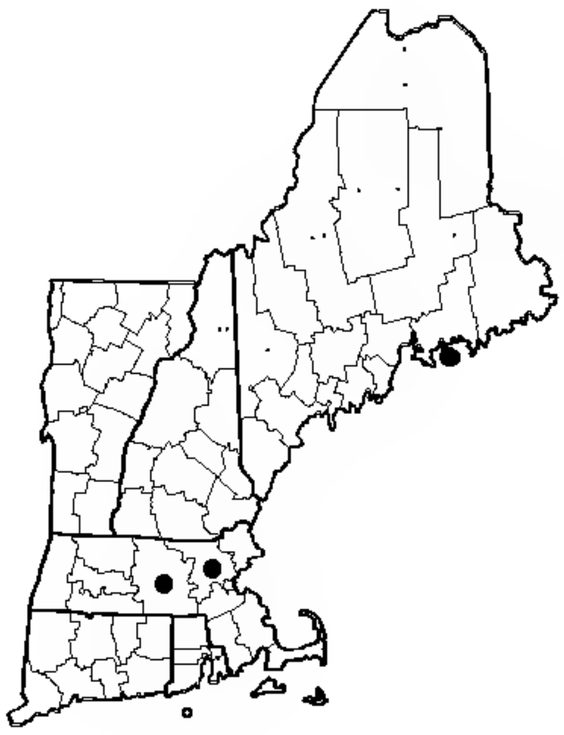


LINARIA GENISTIFOLIA
subsp. *GENISTIFOLIA*

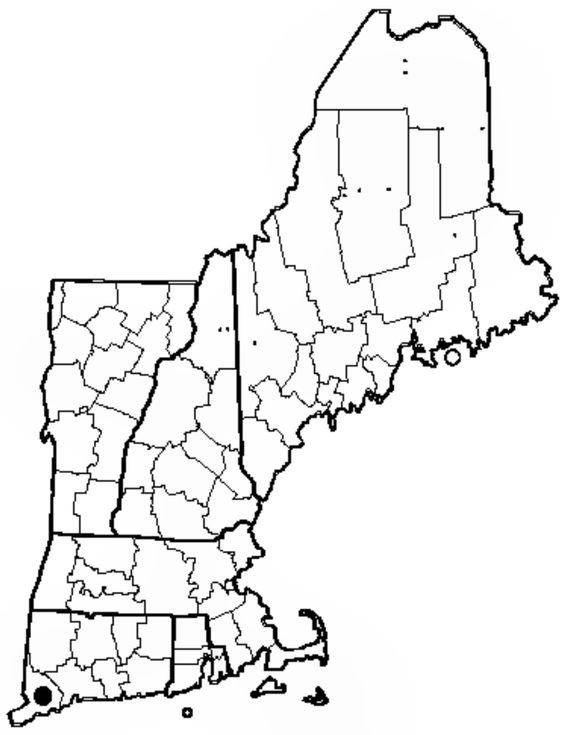


LINARIA MAROCCANA

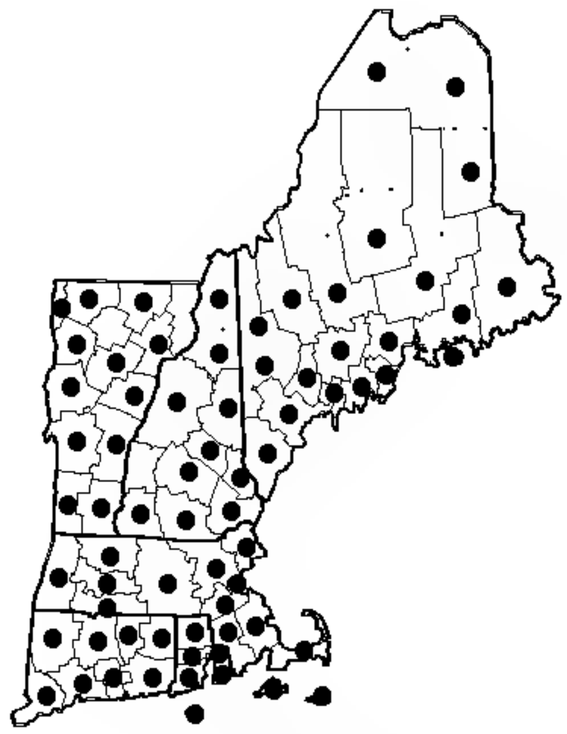
Figure 21 Distribution maps



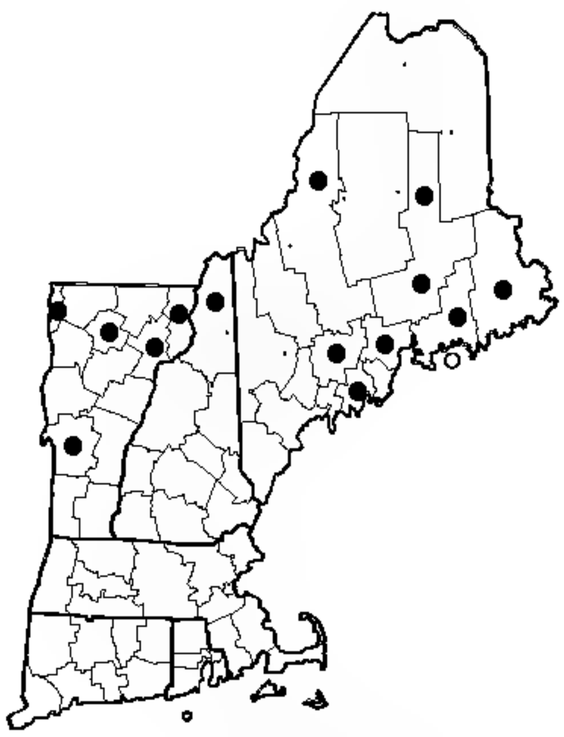
LINARIA REPENS



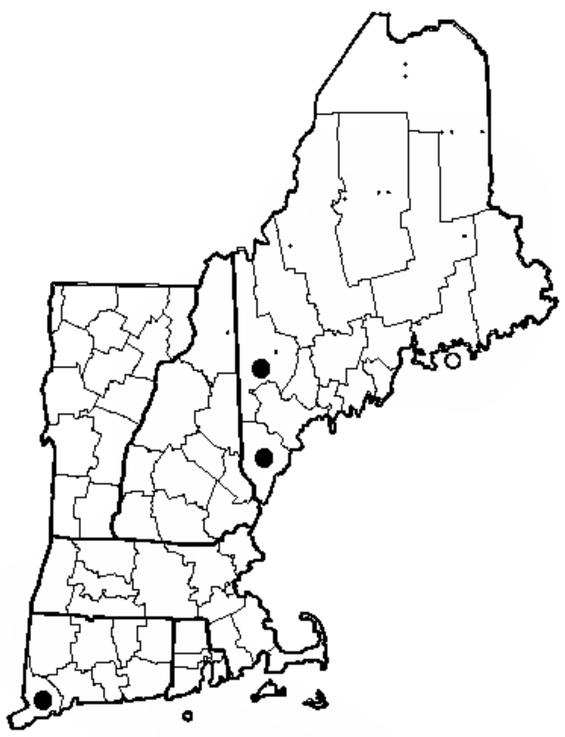
LINARIA SPARTEA



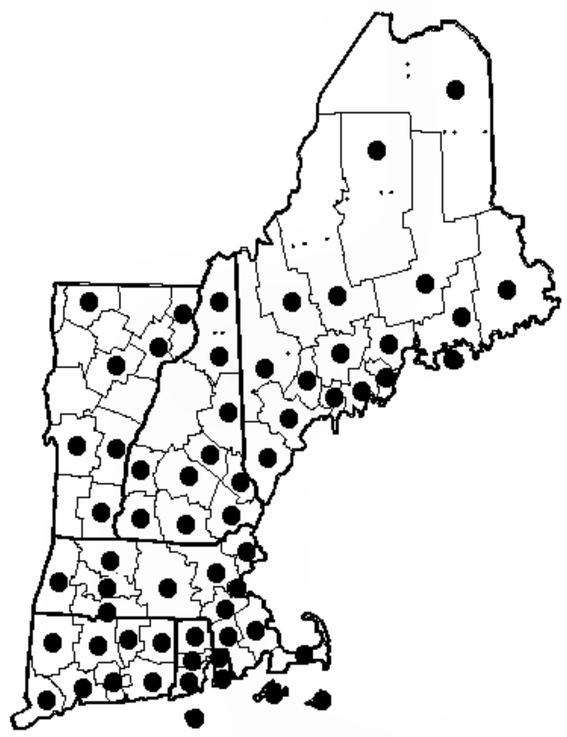
LINARIA VULGARIS



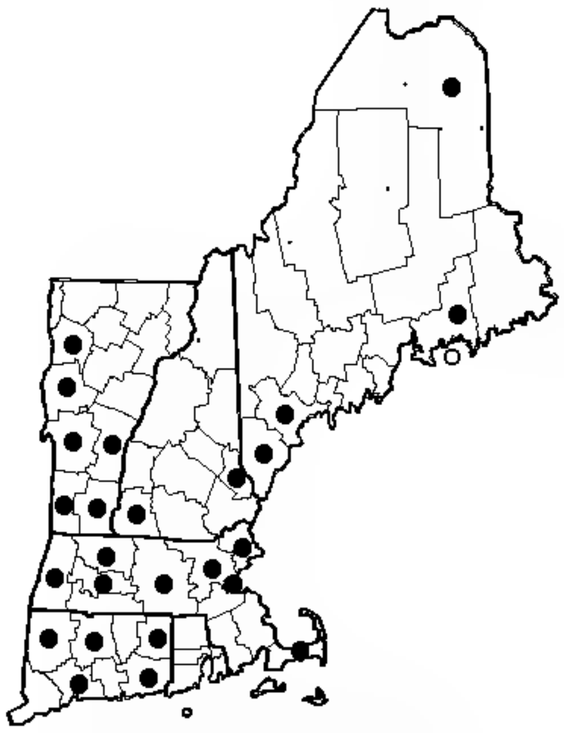
Littorella americana



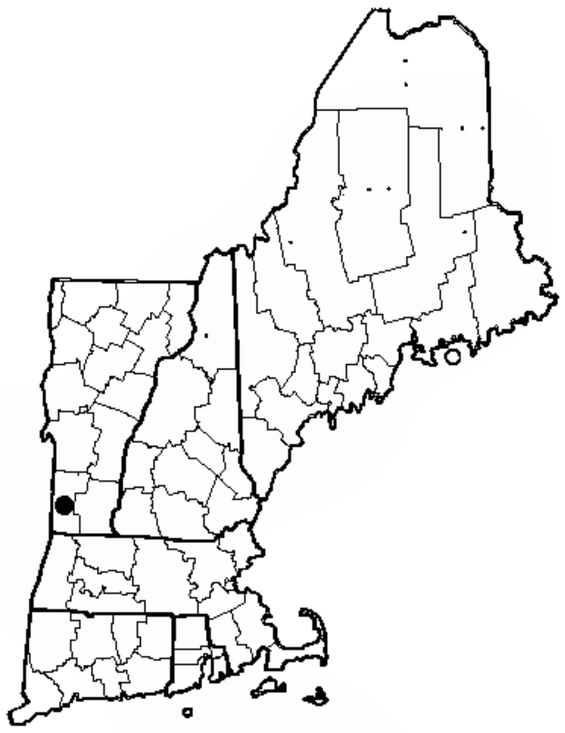
MISOPATES ORONTIUM



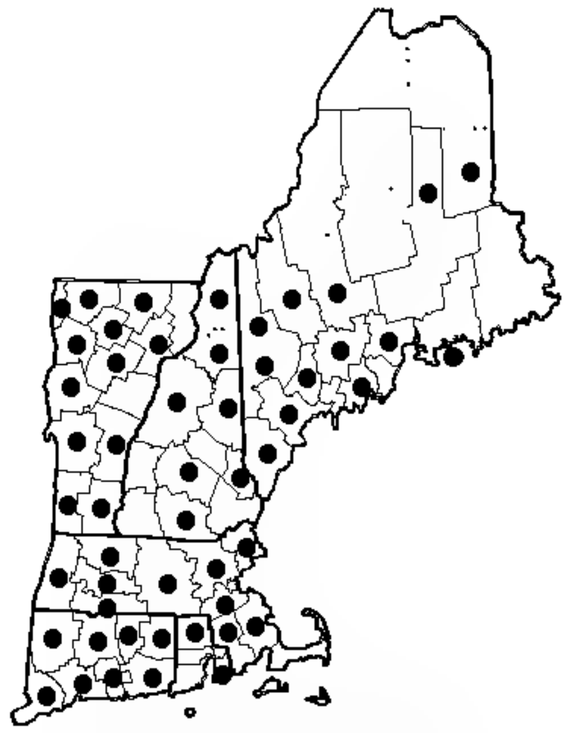
Nuttallanthus canadensis



PENSTEMON CALYCOSUS

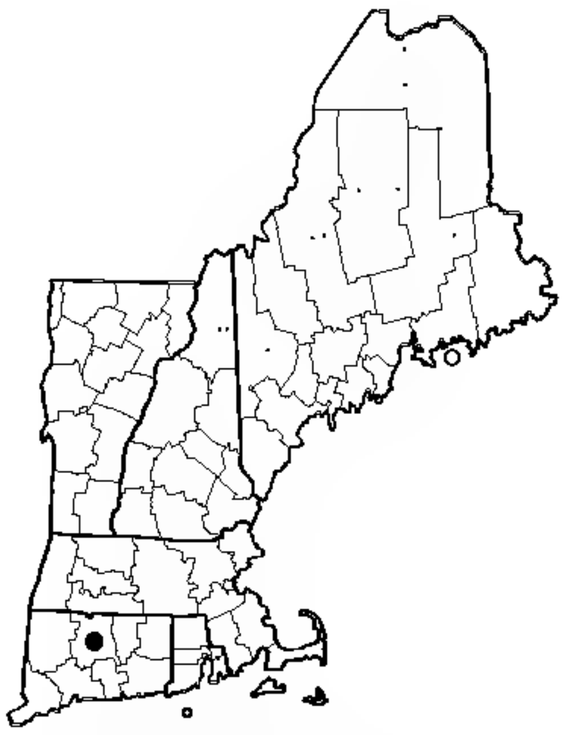


PENSTEMON CANESCENS

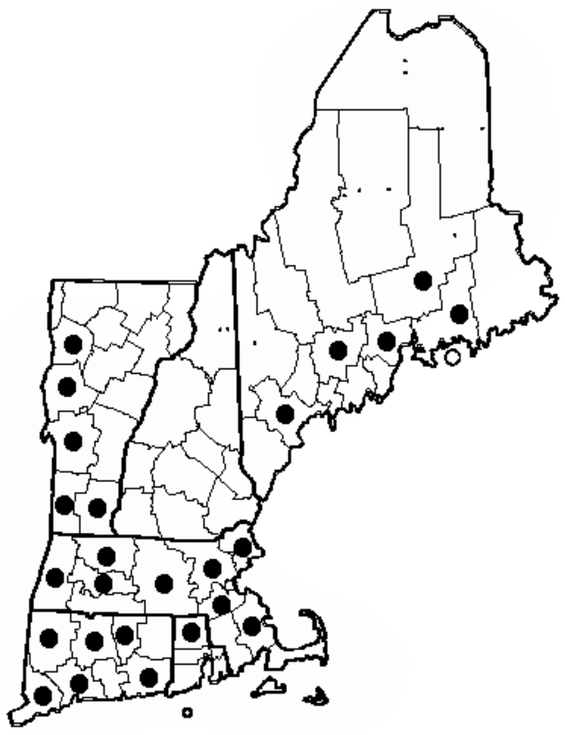


PENSTEMON DIGITALIS

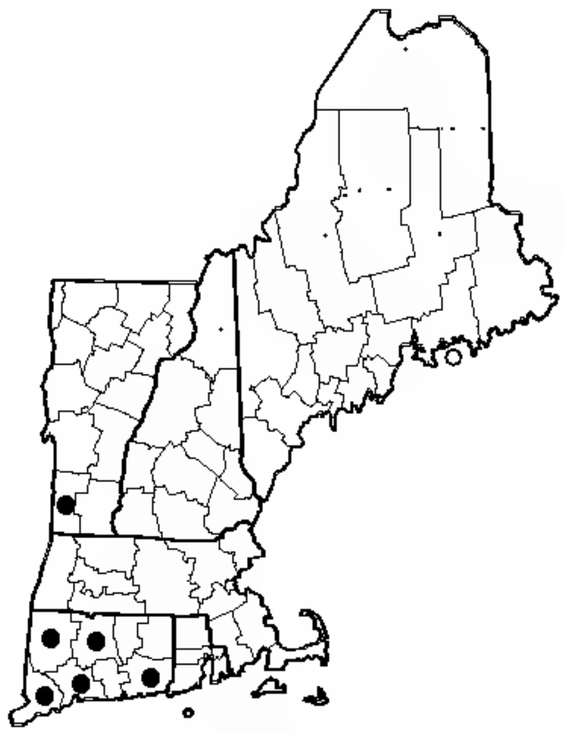
Figure 22 Distribution maps



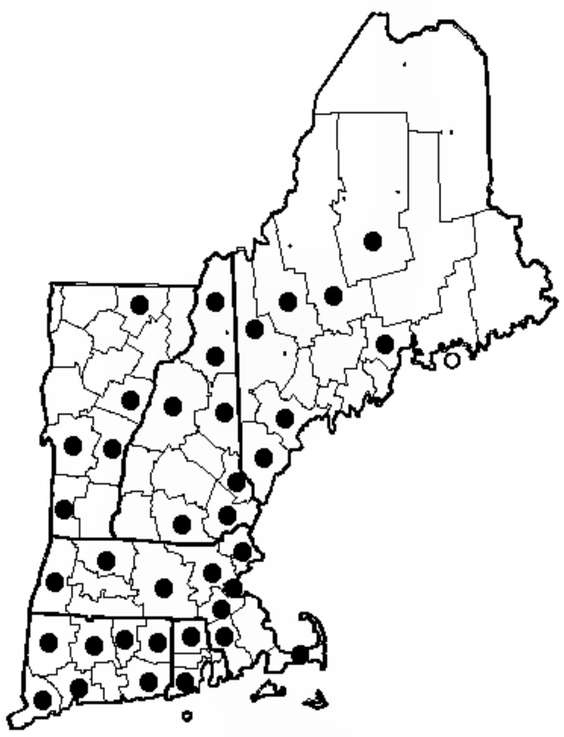
PENSTEMON GRANDIFLORUS



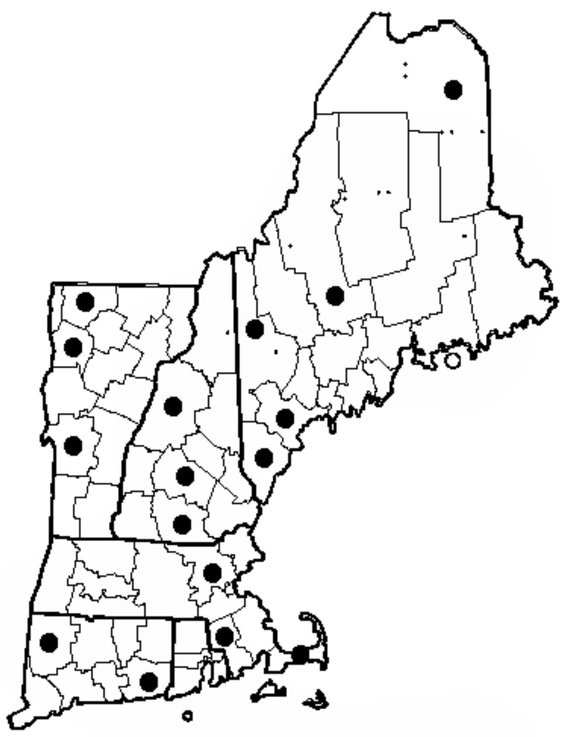
Penstemon hirsutus



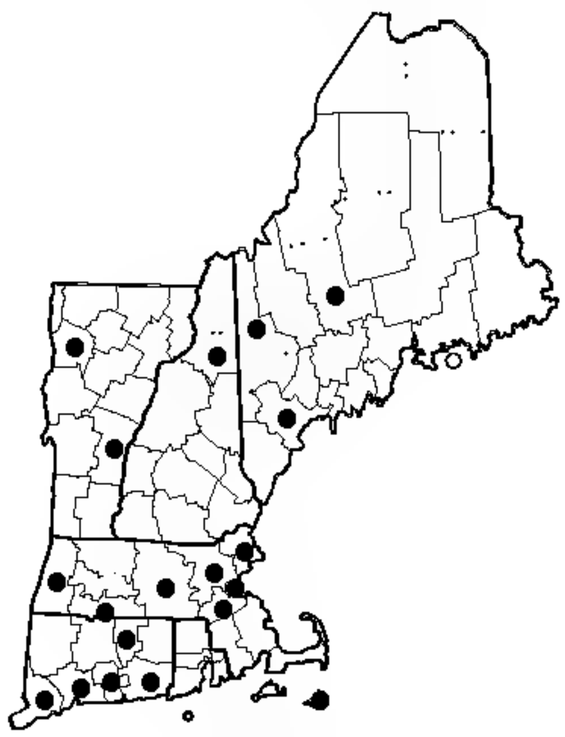
PENSTEMON LAEVIGATUS



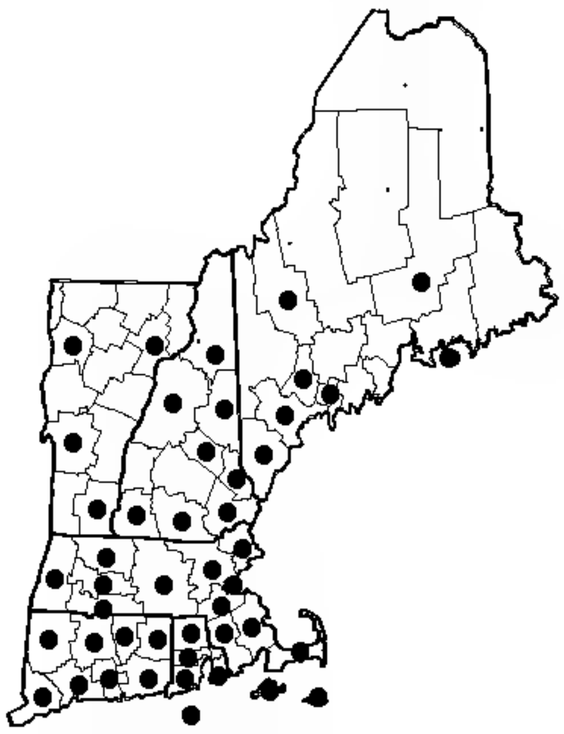
PENSTEMON PALLIDUS



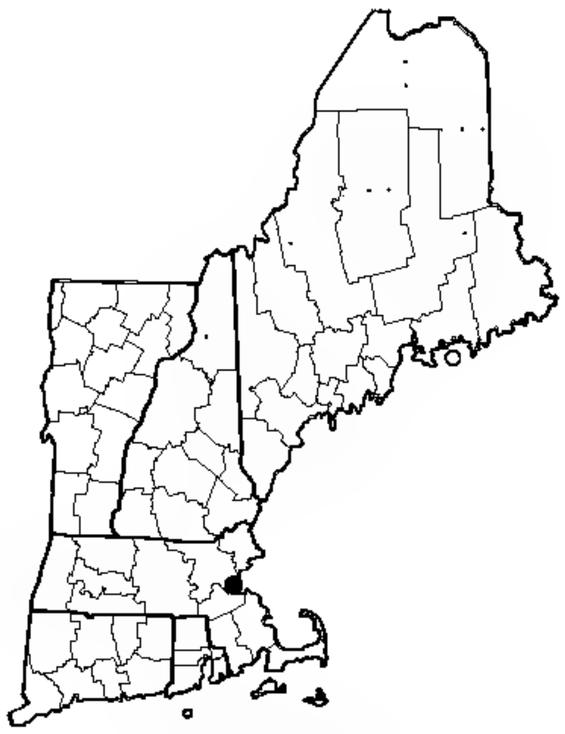
PENSTEMON TUBAEFLORUS



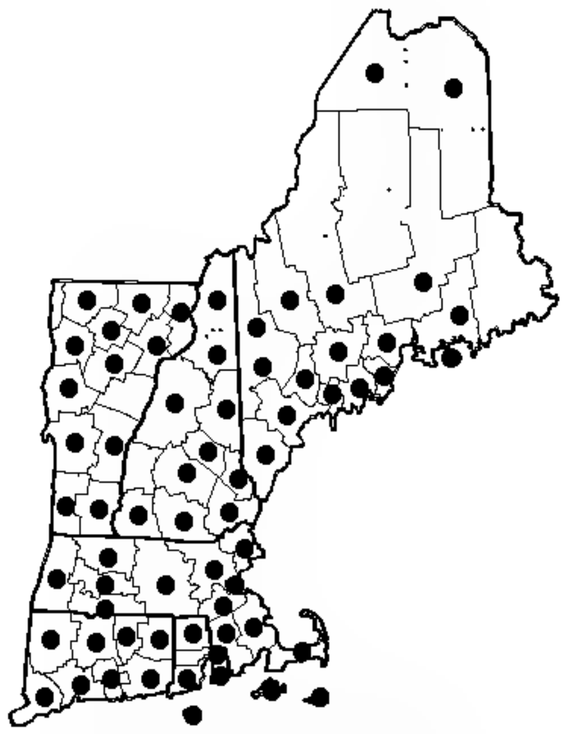
PLANTAGO ARENARIA



Plantago aristata

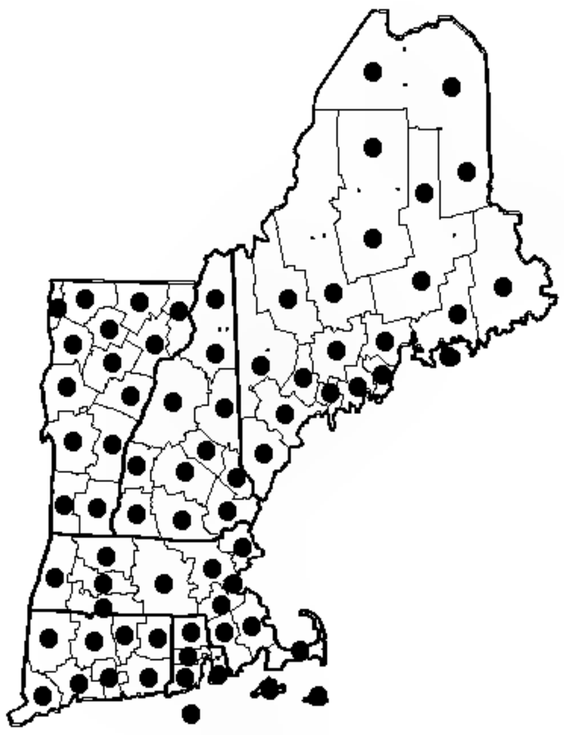


PLANTAGO CORONOPUS

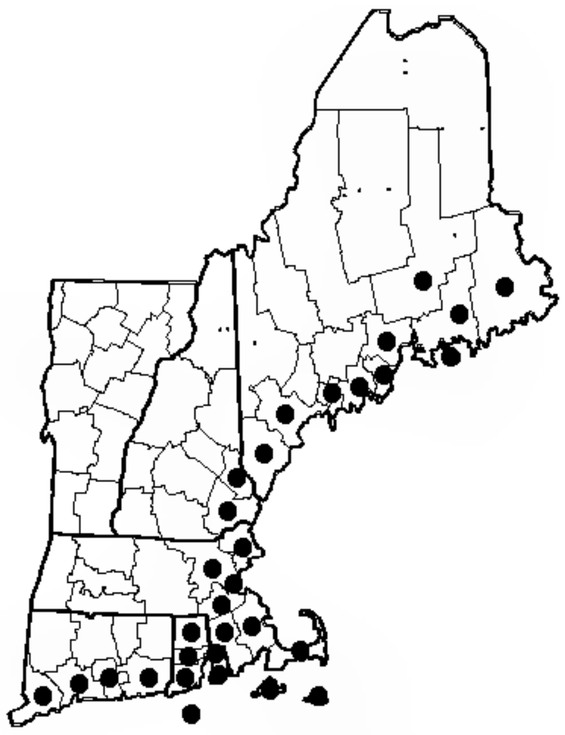


PLANTAGO LANCEOLATA

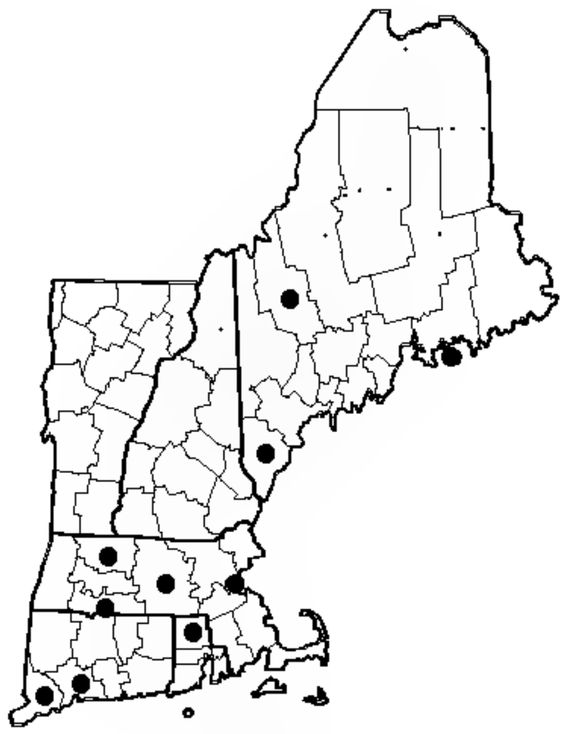
Figure 23 Distribution maps



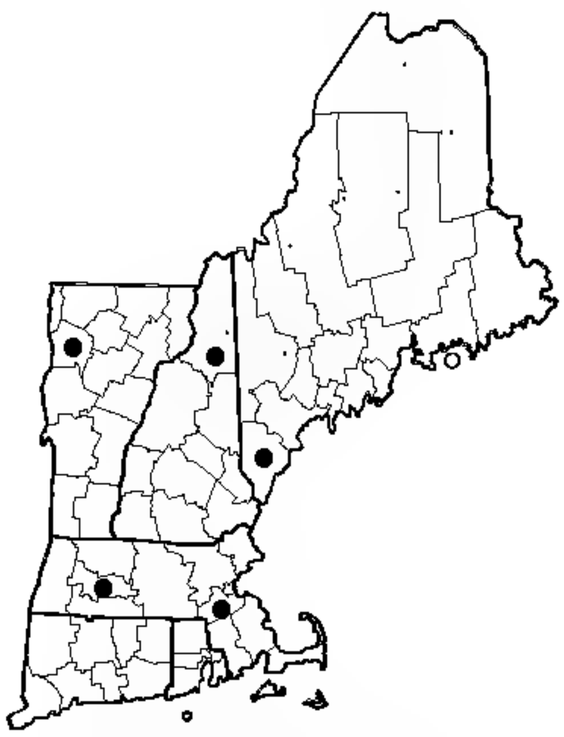
PLANTAGO MAJOR



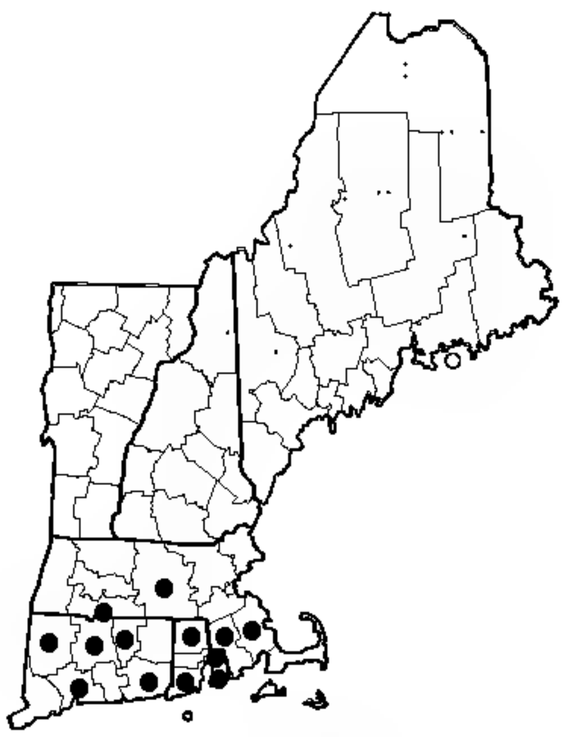
Plantago maritima



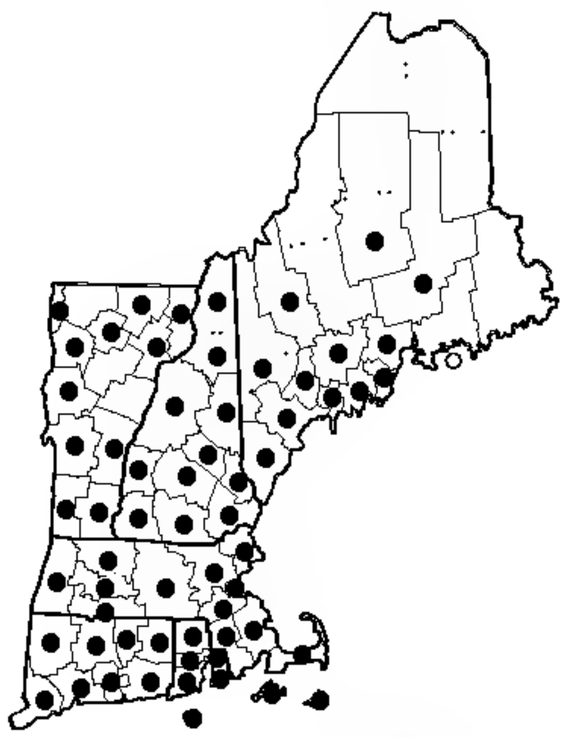
PLANTAGO MEDIA



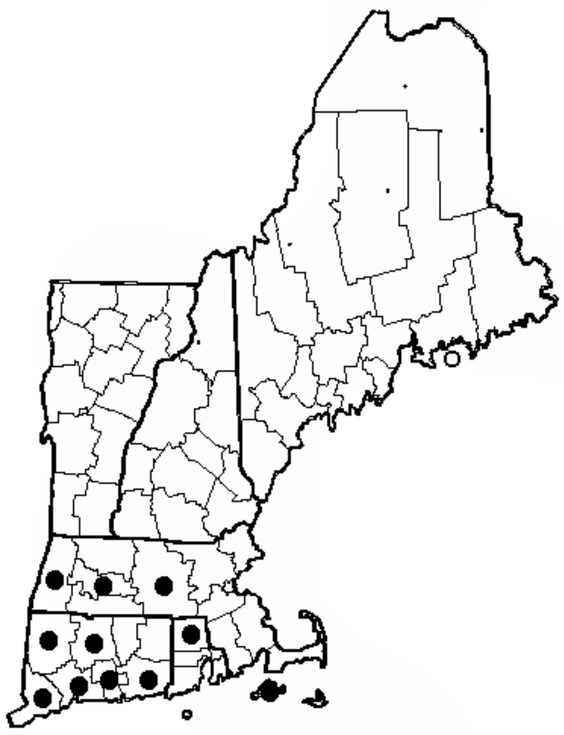
PLANTAGO PATAGONICA



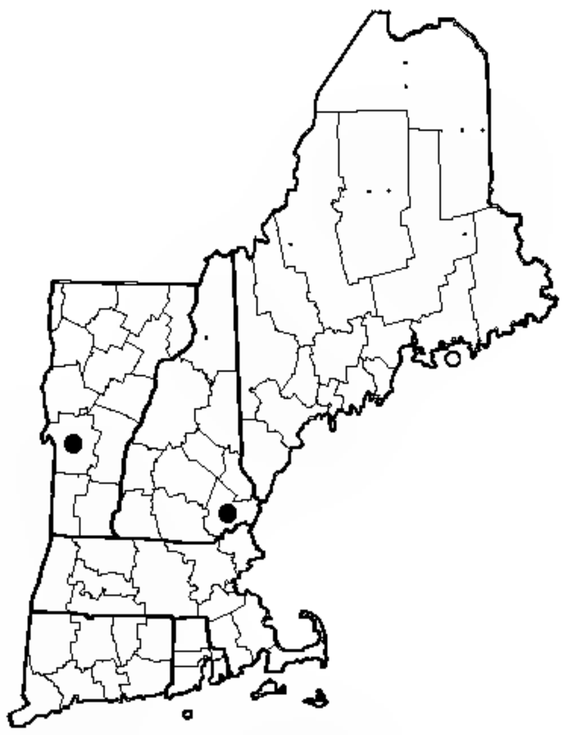
Plantago pusilla



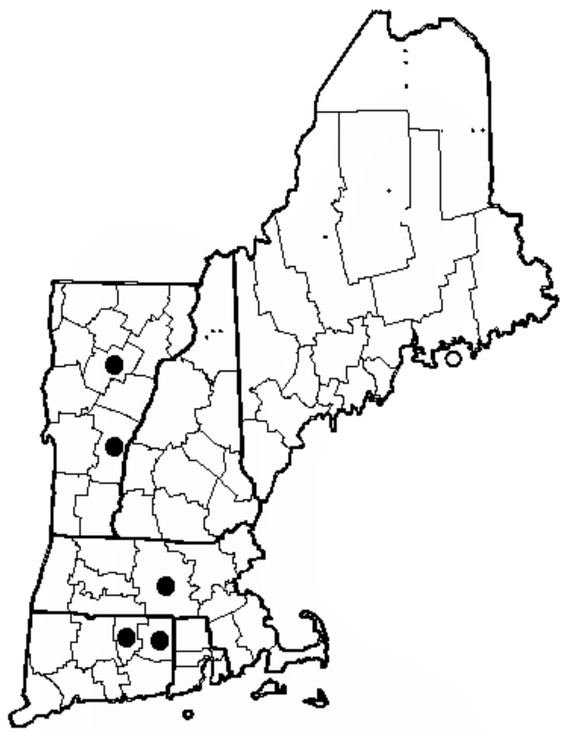
Plantago rugelii



Plantago virginica

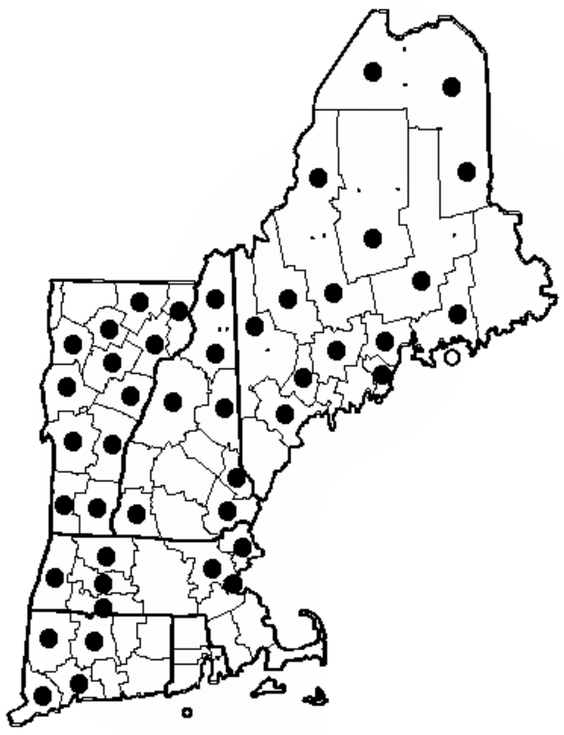


PSEUDOI YSIMACHION SPURIUM

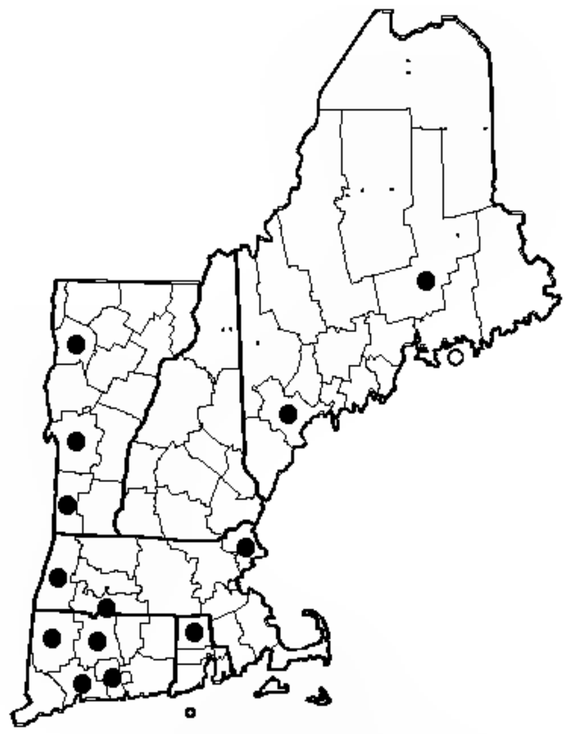


VERONICA AGRESTIS

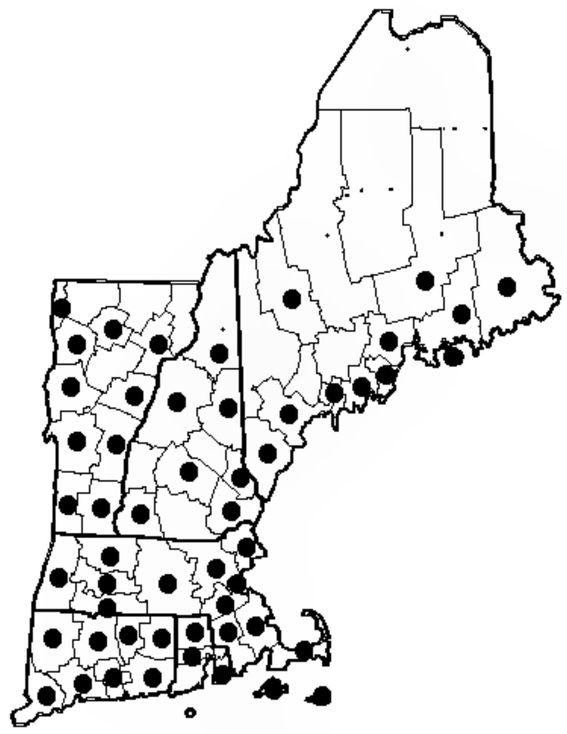
Figure 24 Distribution maps



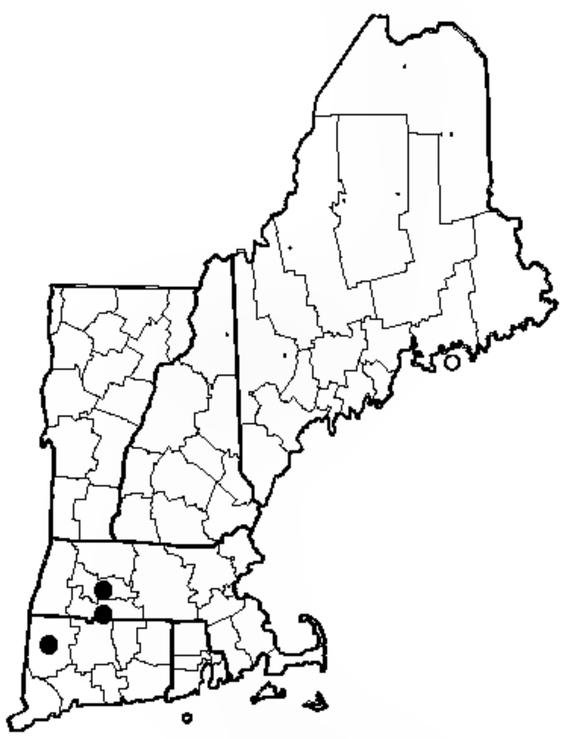
Veronica americana



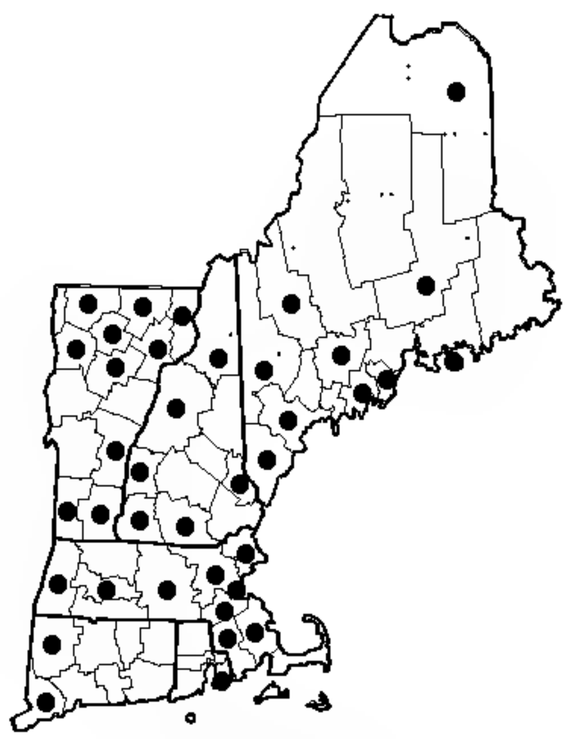
VERONICA ANAGALLIS-AQUATICA



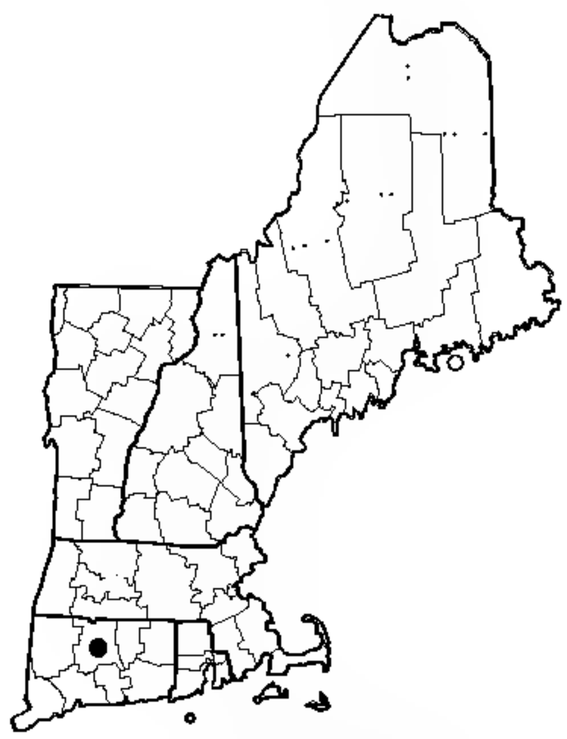
VERONICA ARVENSIS



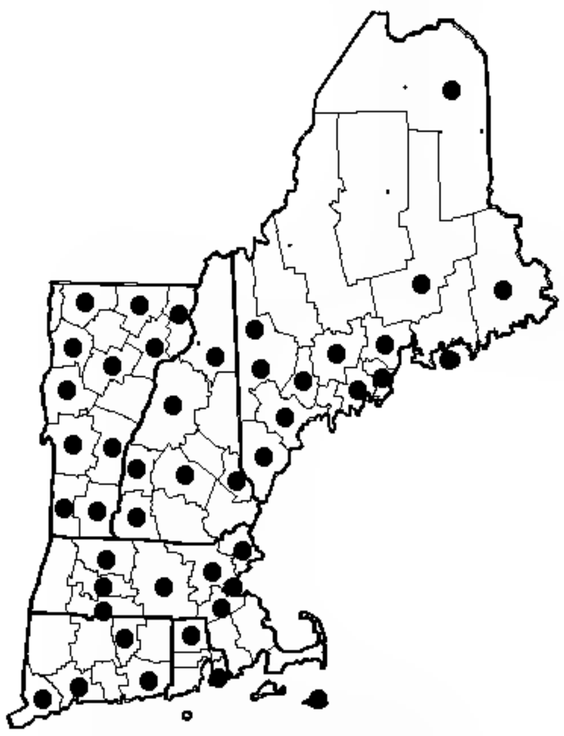
VERONICA BECCABUNGA



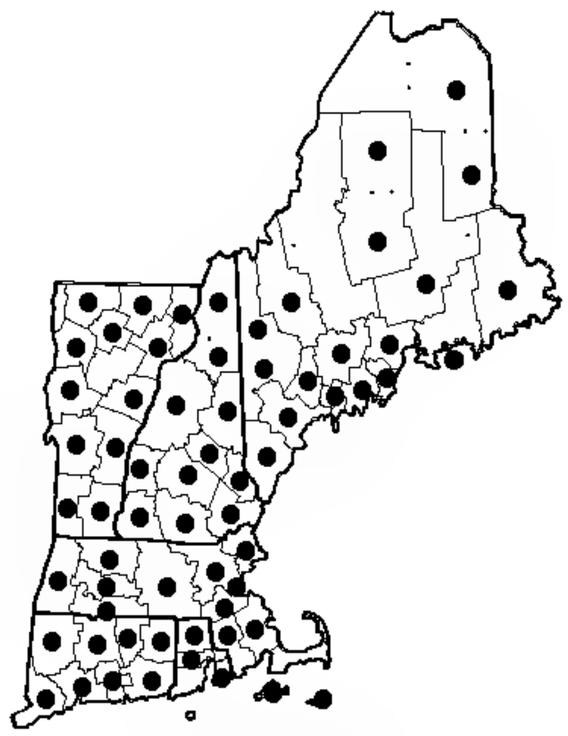
VERONICA CHAMAEDRYS



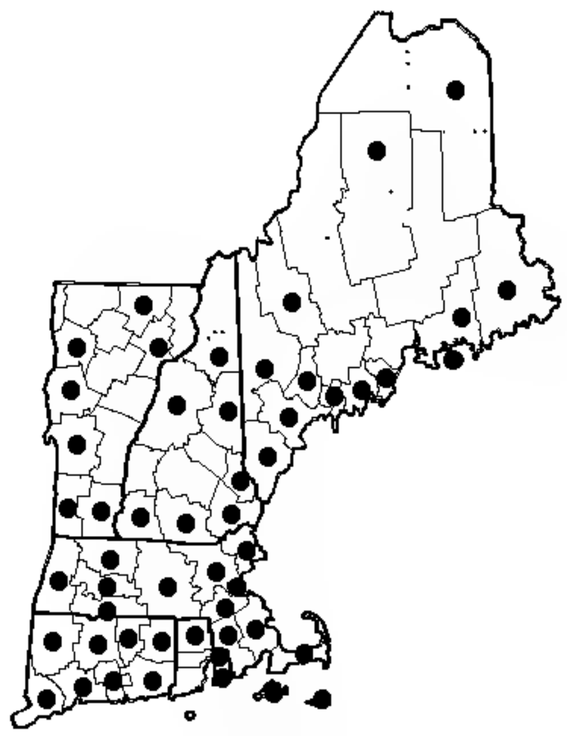
VERONICA FILIFORMIS



VERONICA LONGIFOLIA

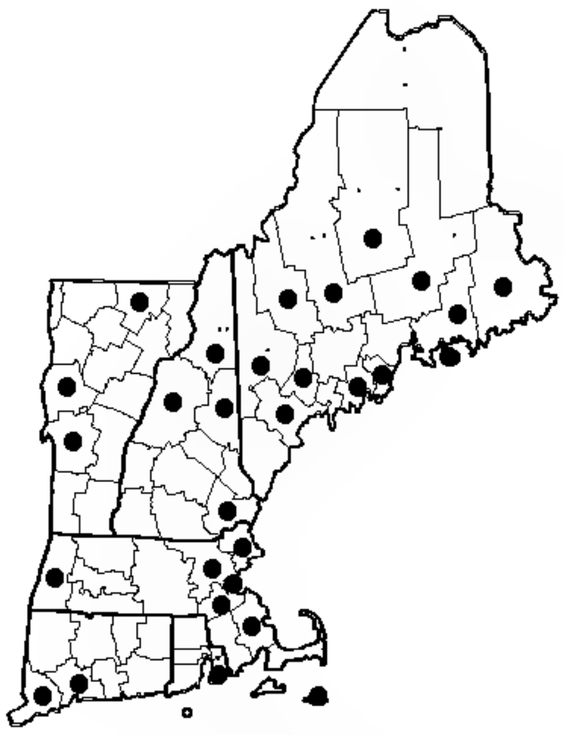


Veronica officinalis
var *officinalis*

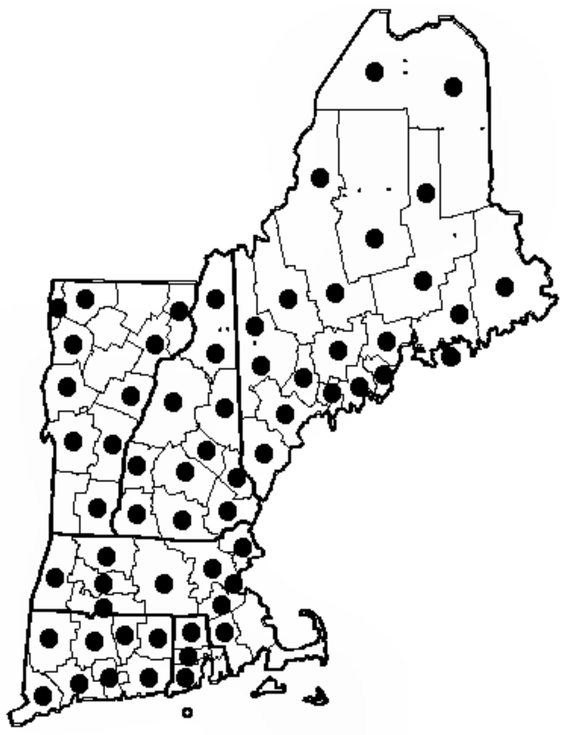


Veronica peregrina

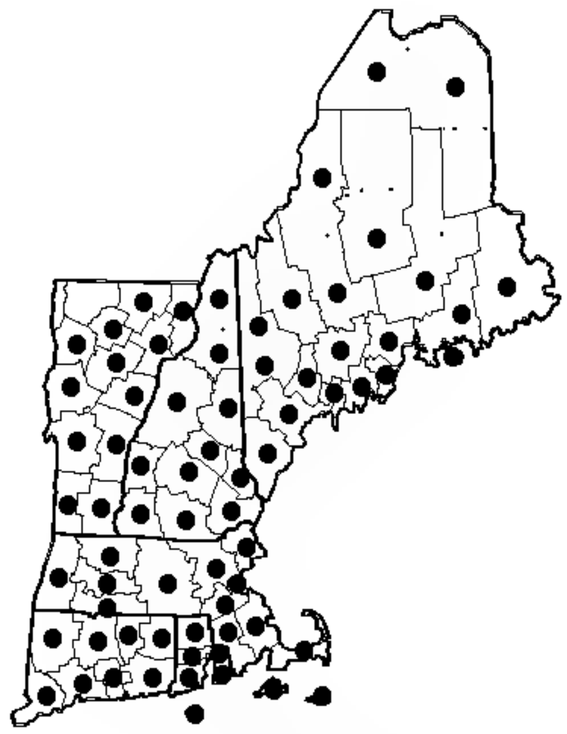
Figure 25 Distribution maps



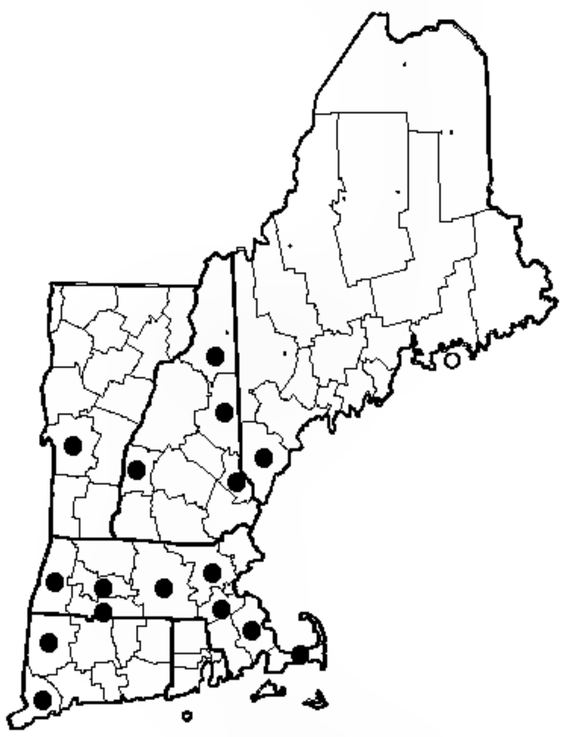
VERONICA PERSICA



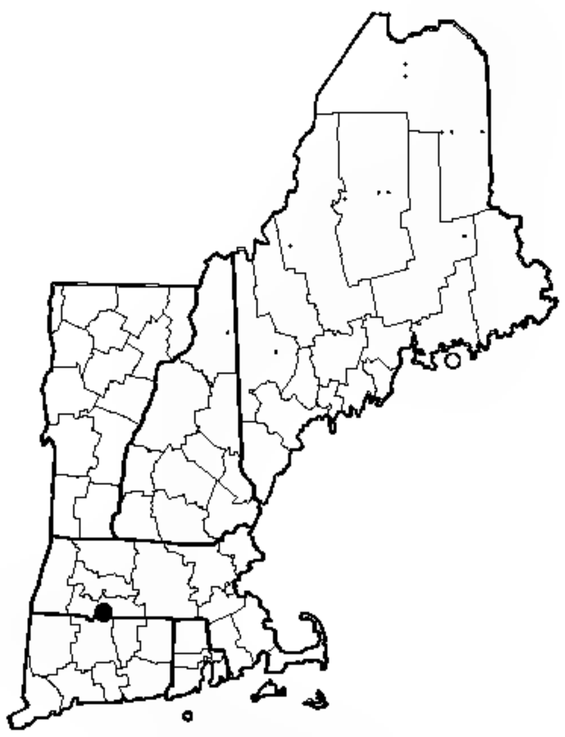
Veronica scutellata



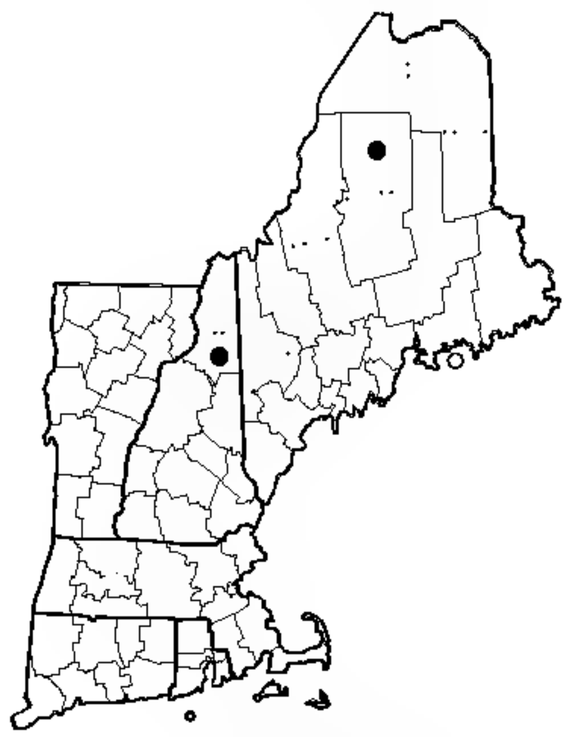
Veronica serpyllifolia



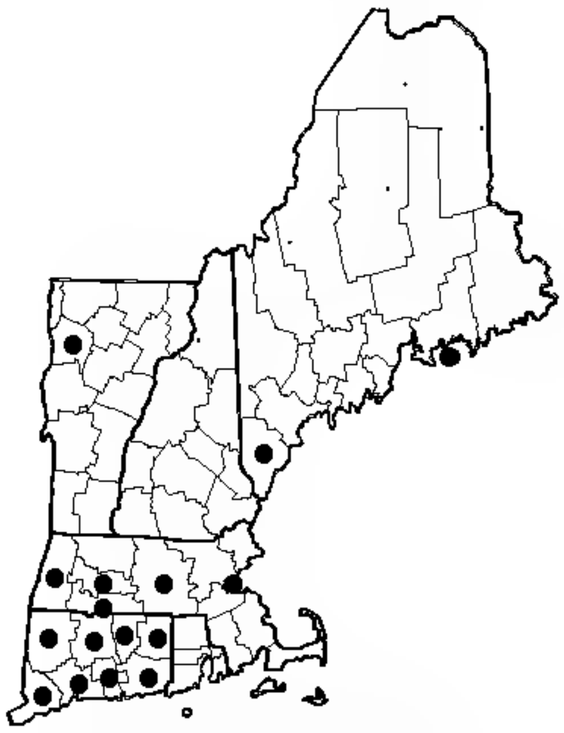
VERONICA TEUCRIUM



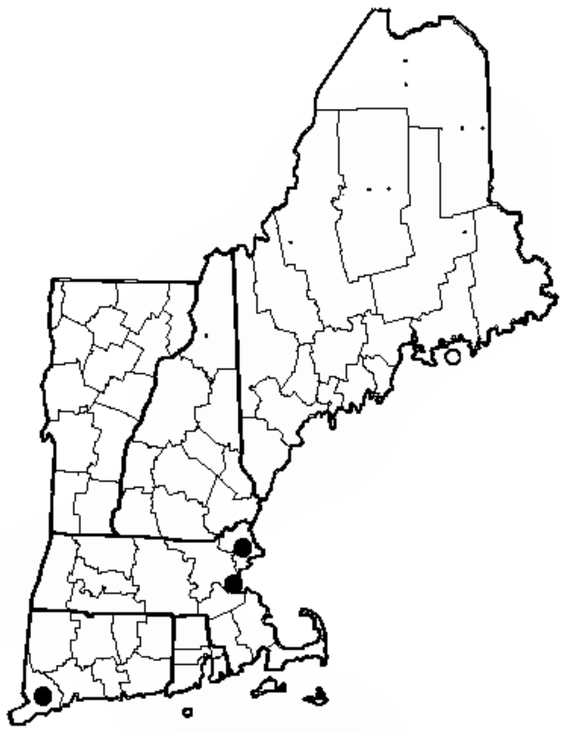
VERONICA VERNA



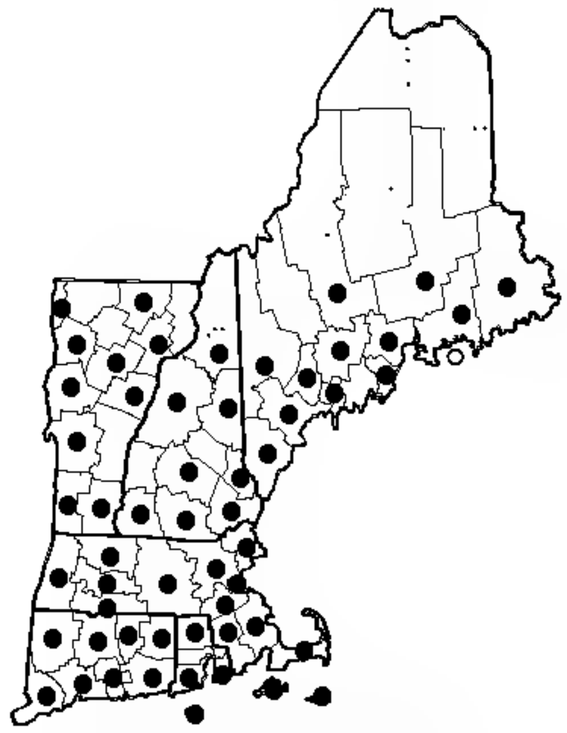
Veronica wormskjoldii
subsp. *wormskjoldii*



Veronicastrum virginicum

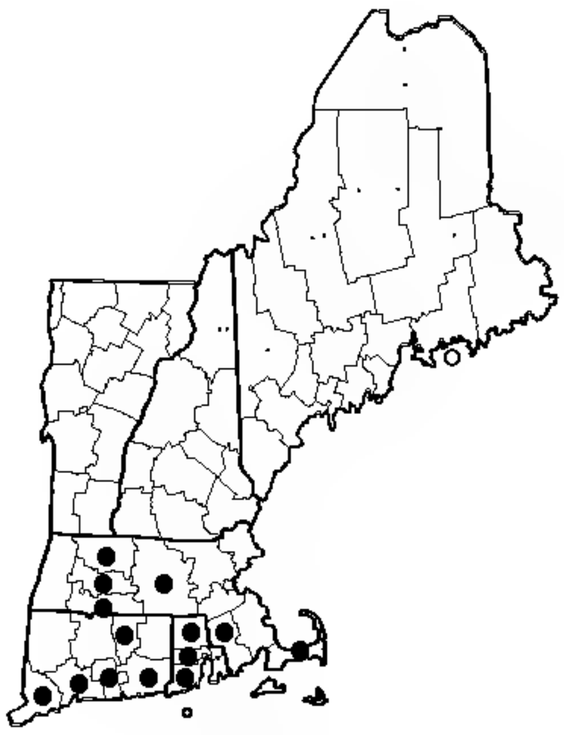


ASPERULA ARVENSIS

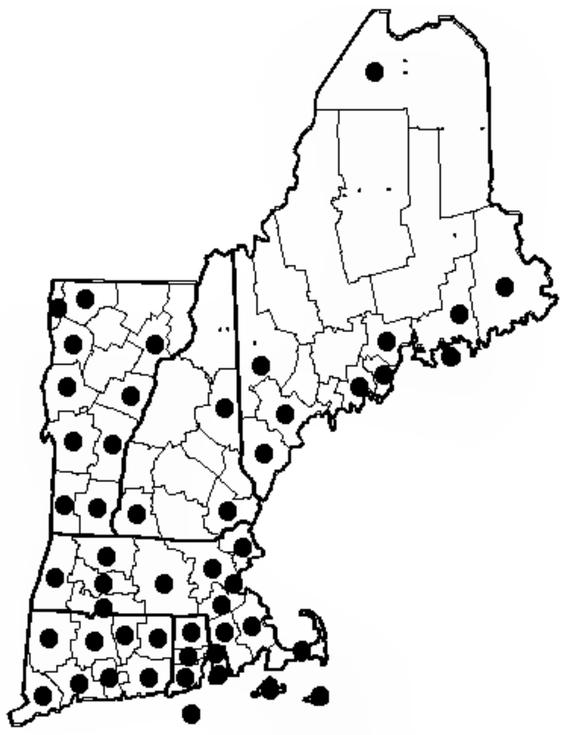


Cephalanthus occidentalis

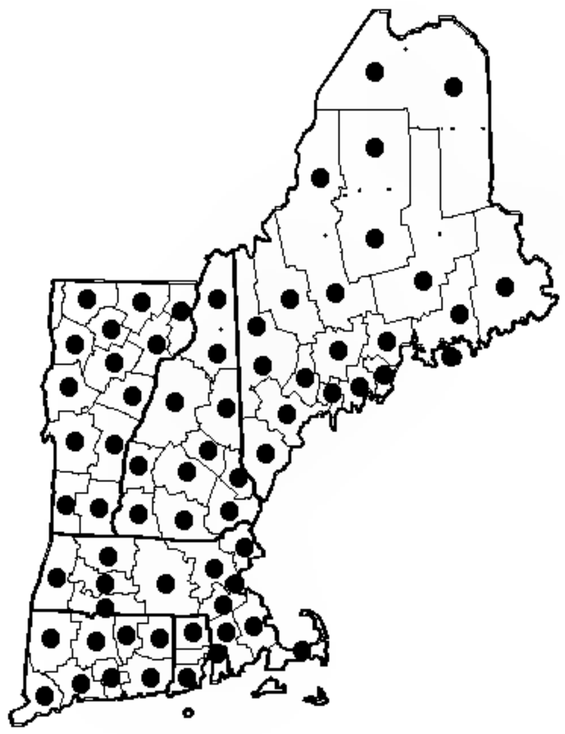
Figure 26 Distribution maps



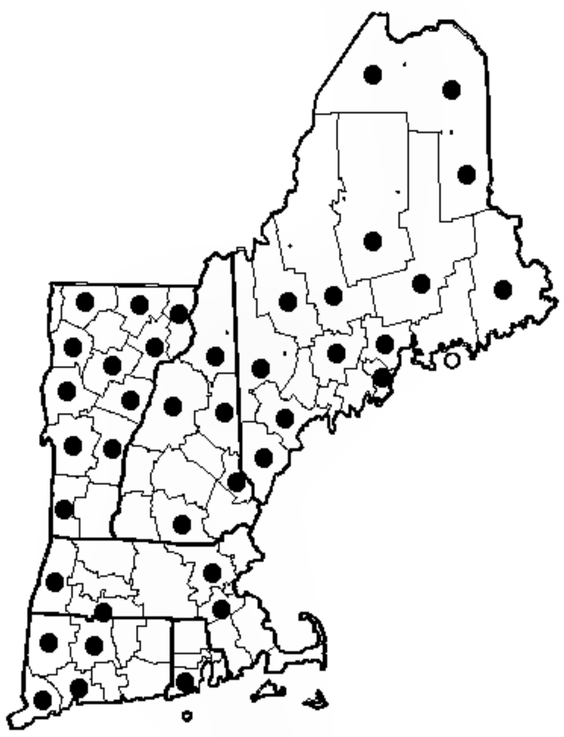
Diodella teres



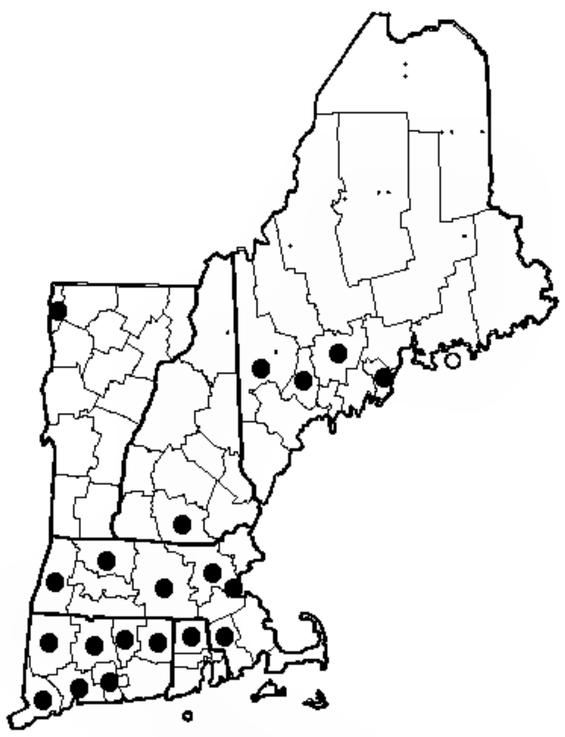
Galium aparine



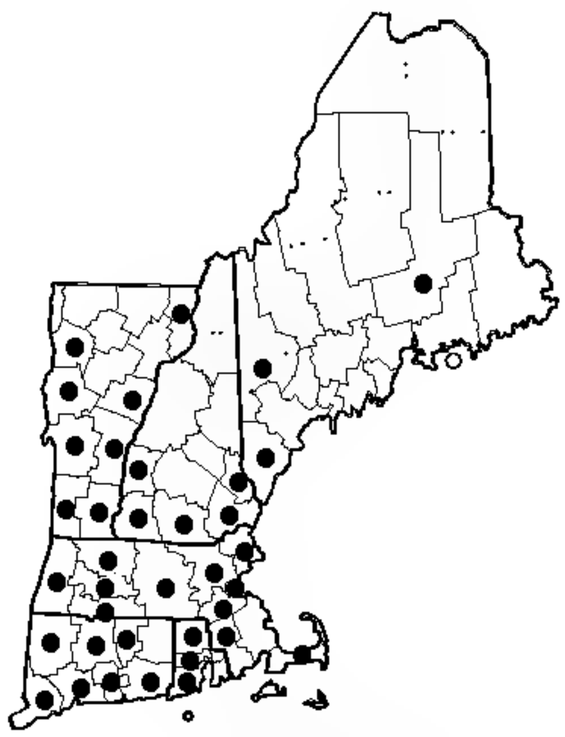
Galium asprellum



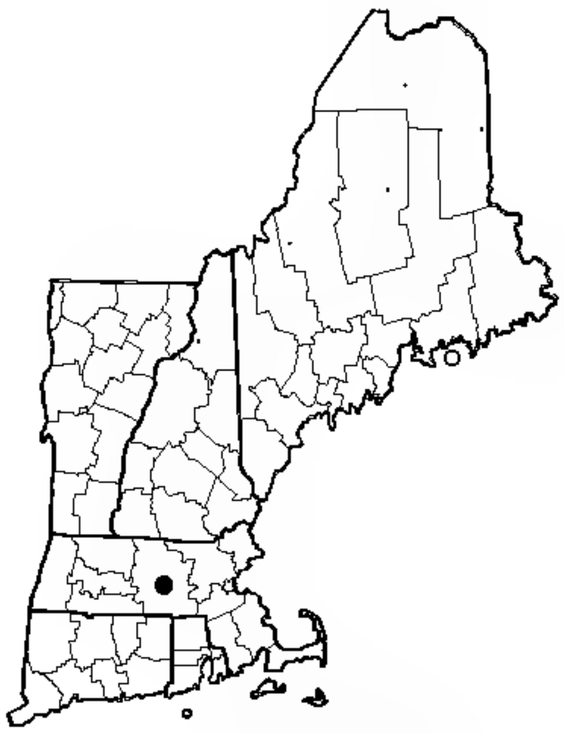
Galium boreale



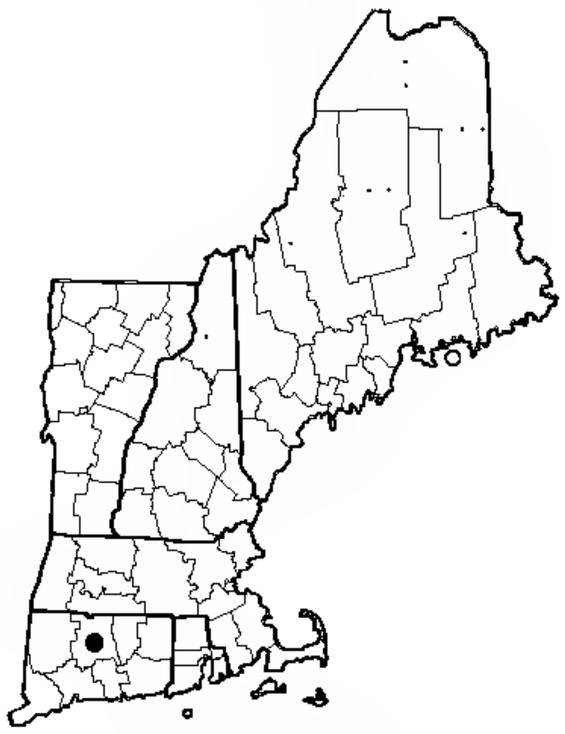
Galium circaezans
var *circaezans*



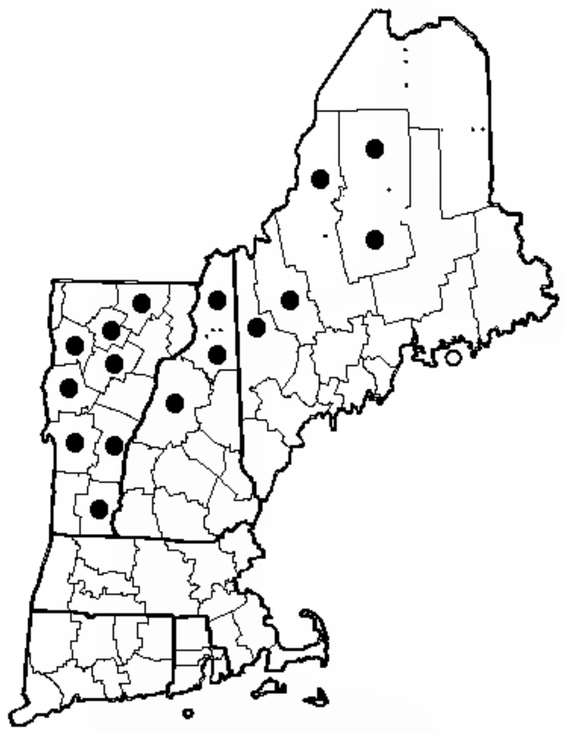
Galium circaezans
var *hypomalacum*



GALIUM CONCINNUM

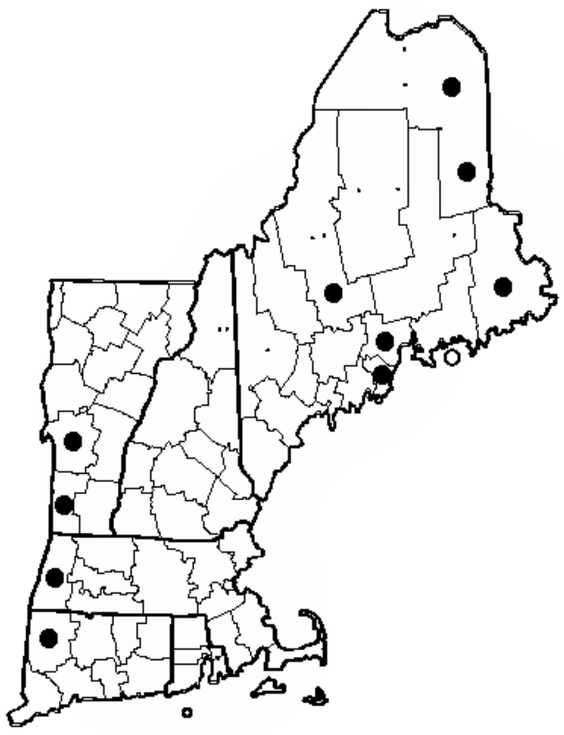


GALIUM GLAUCUM

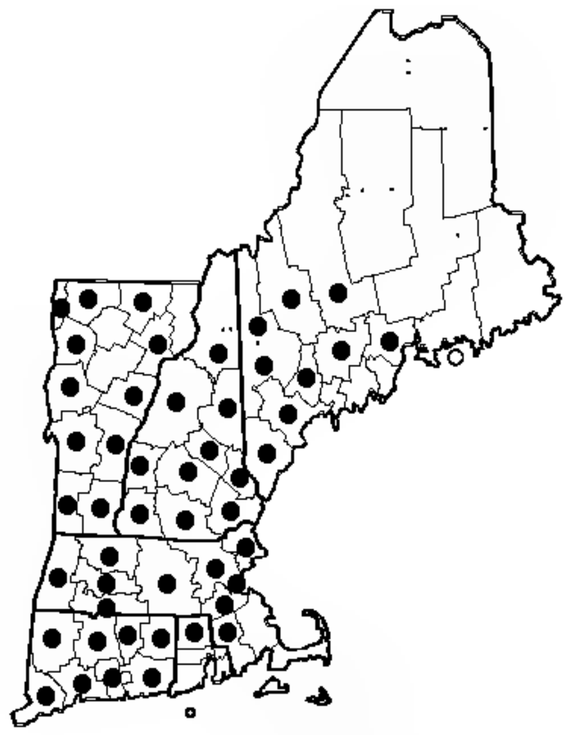


Galium kamtschaticum

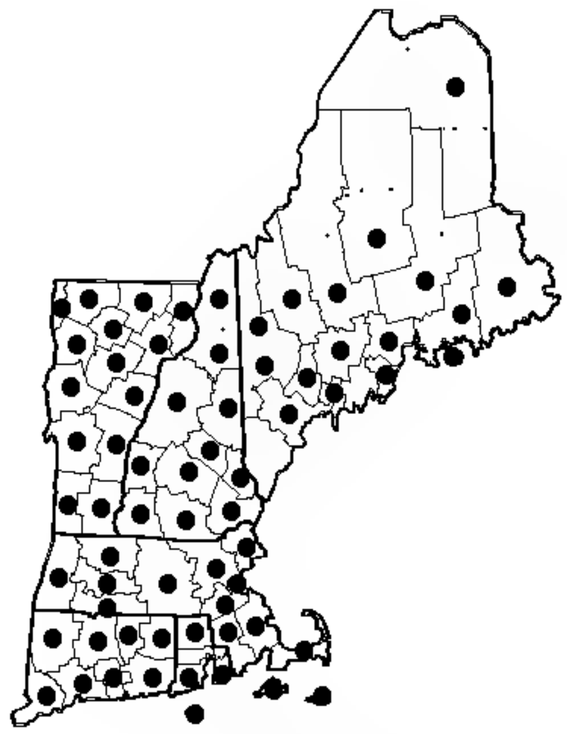
Figure 27 Distribution maps



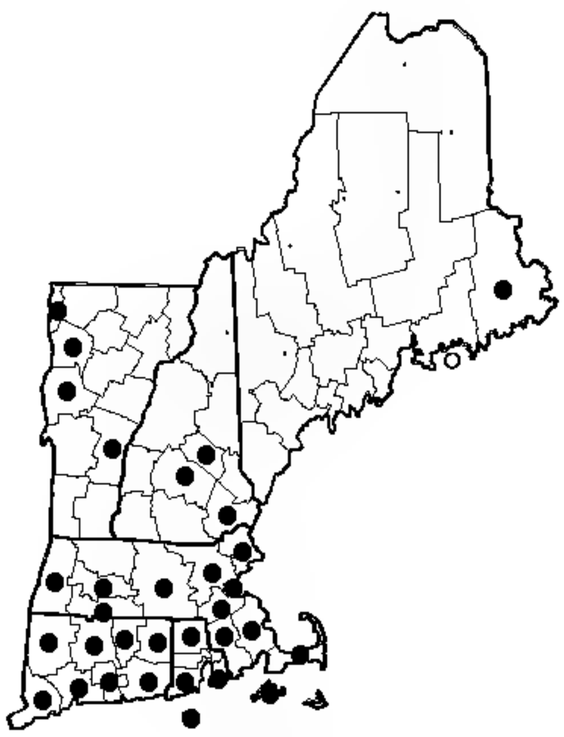
Galium labradoricum



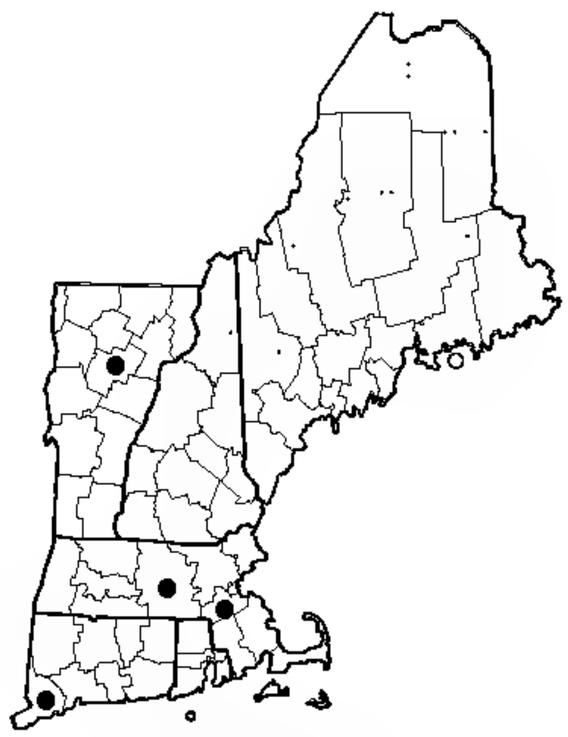
Galium lanceolatum



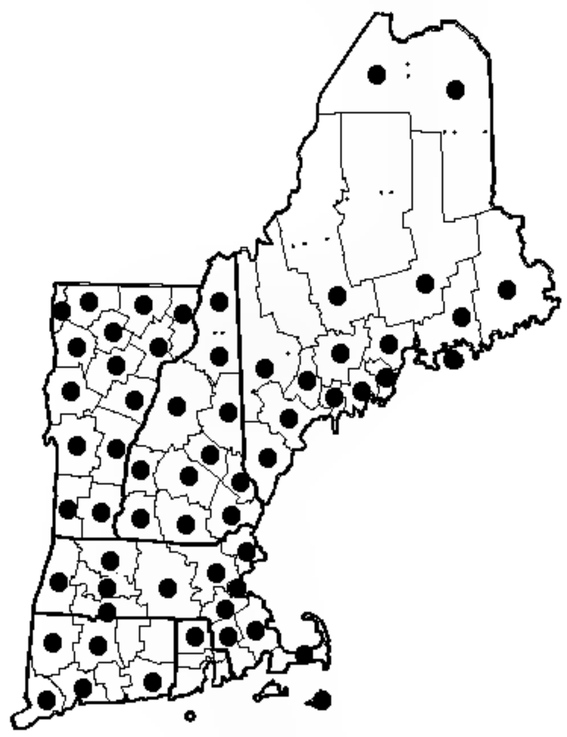
GALIUM MOLLUGO



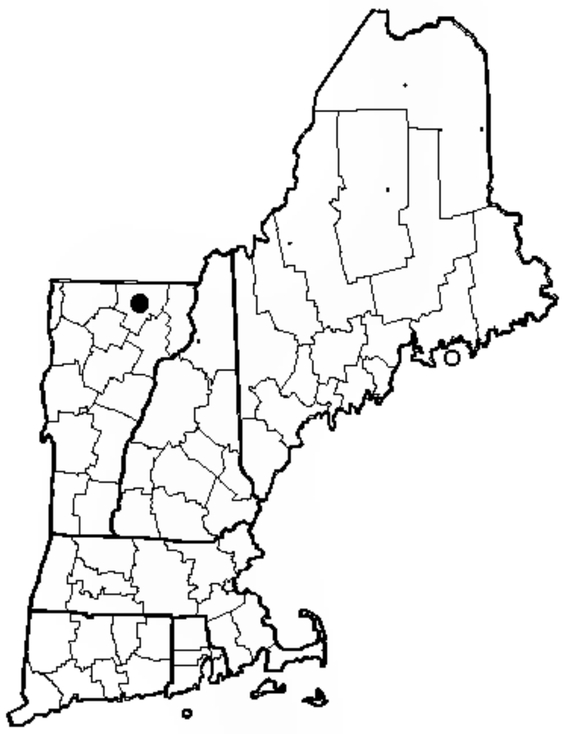
Galium obtusum
subsp. *obtusum*



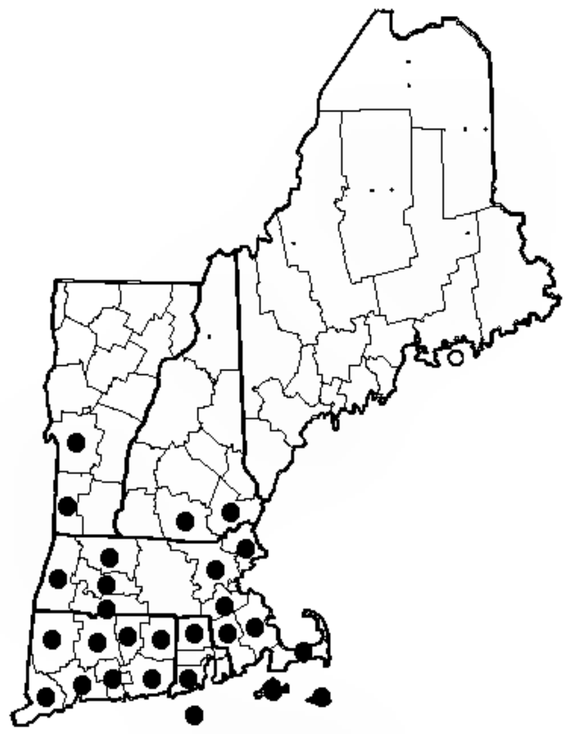
GALIUM ODORATUM



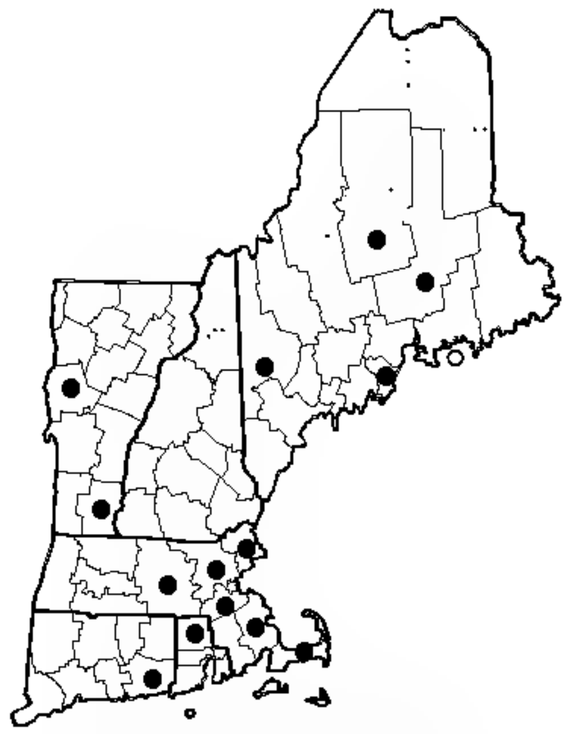
Galium palustre



GALIUM PARISIENSE

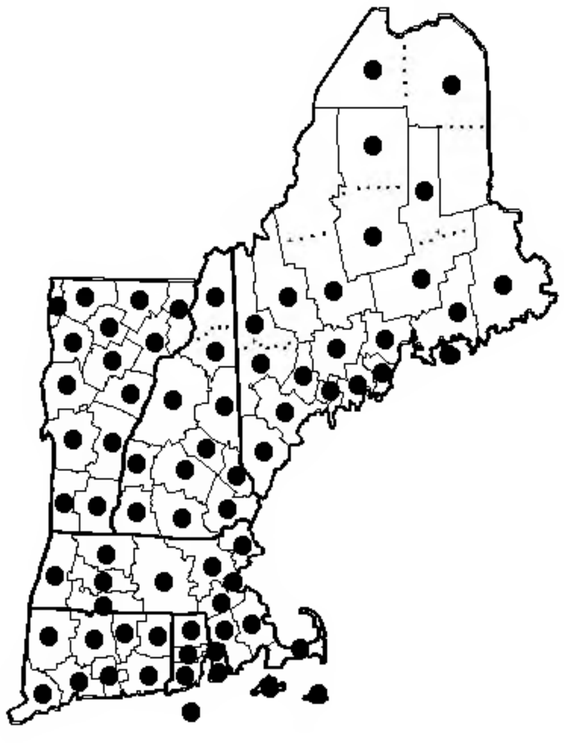


Galium pilosum
var *pilosum*

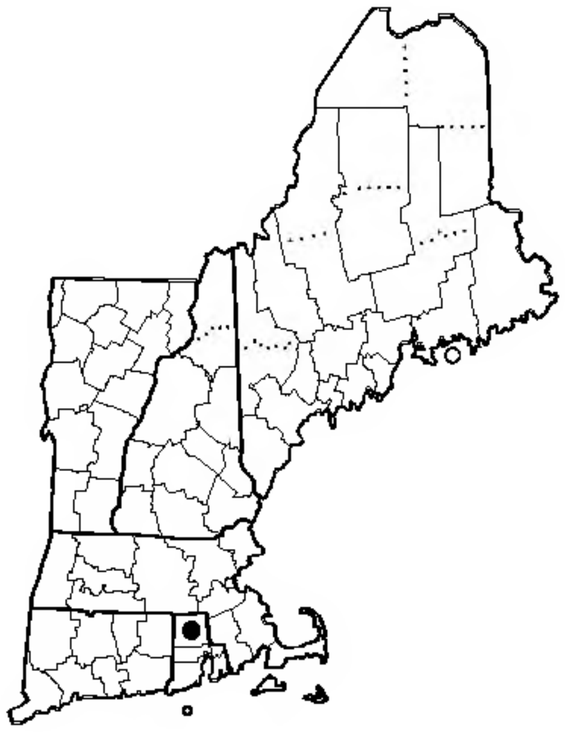


GALIUM SYLVATICUM

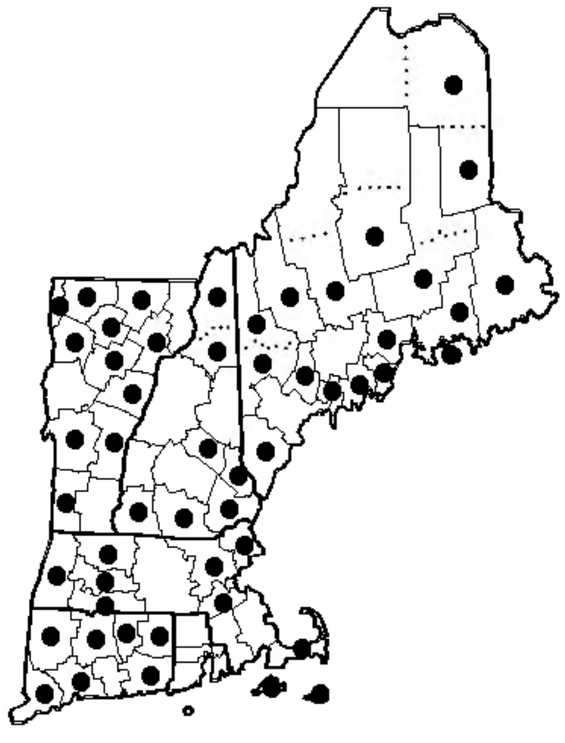
Figure 28 Distribution maps



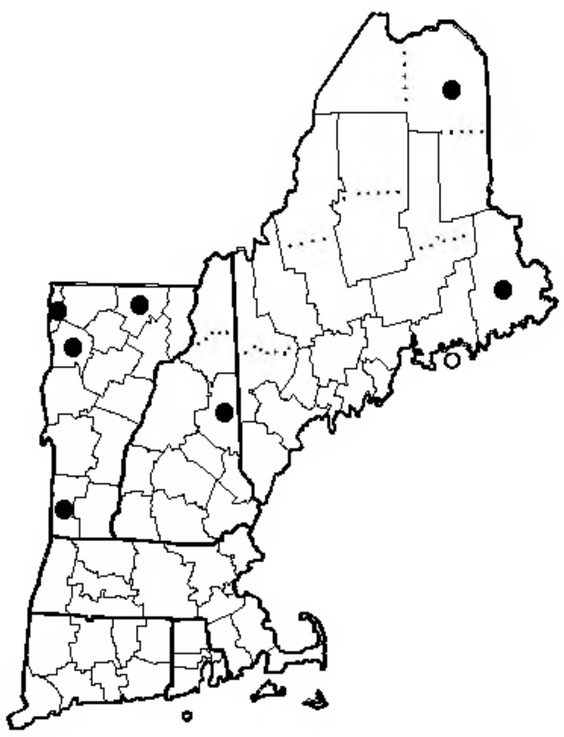
Galium tinctorium



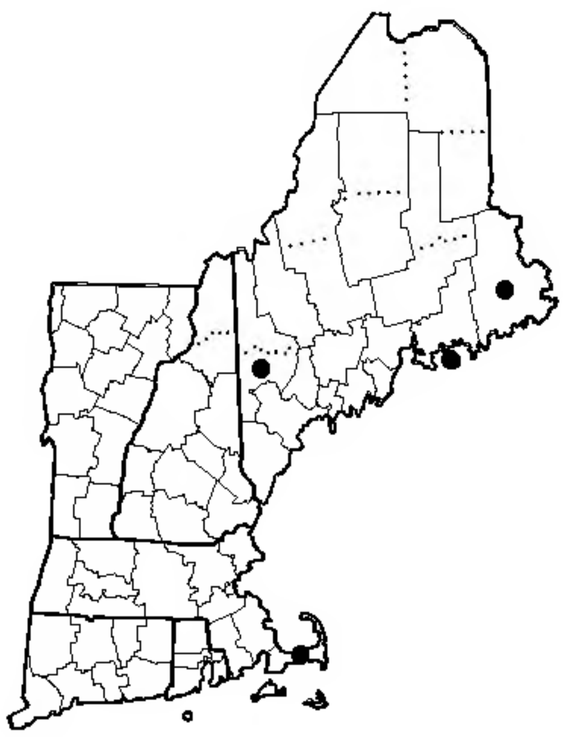
GALIUM TRICORNUTUM



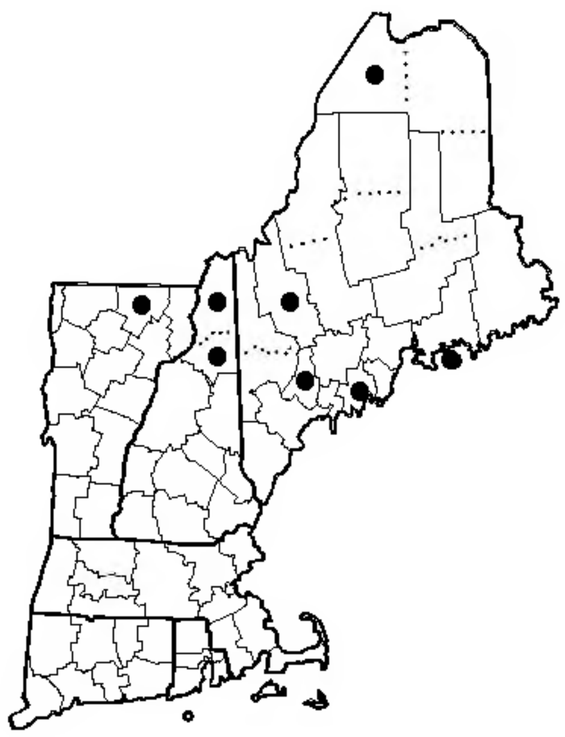
Galium trifidum
subsp. *trifidum*



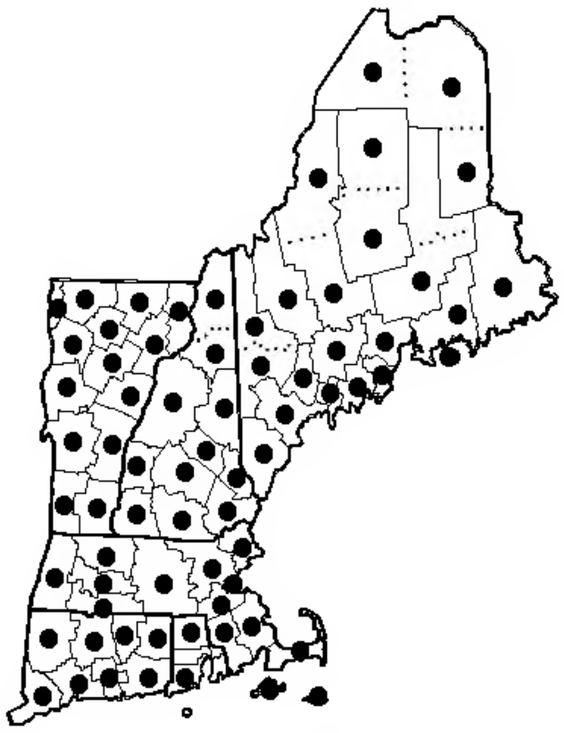
Galium trifidum
subsp. *brevipes*



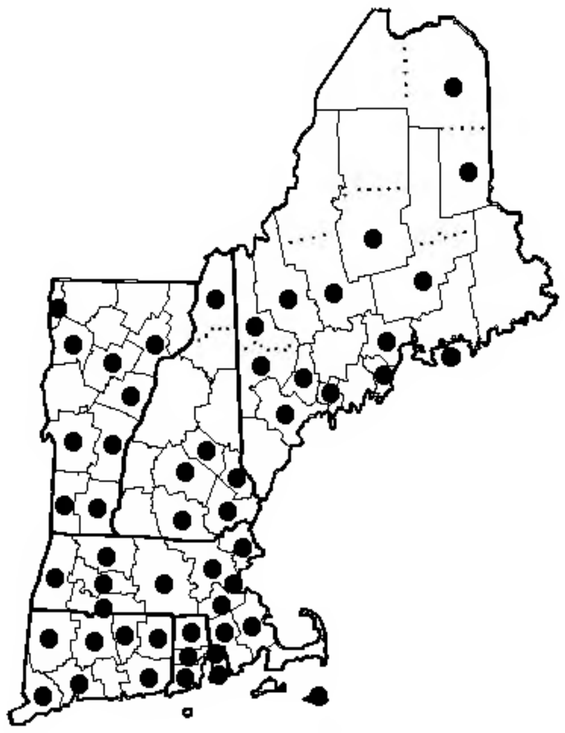
Galium trifidum
subsp. *halophilum*



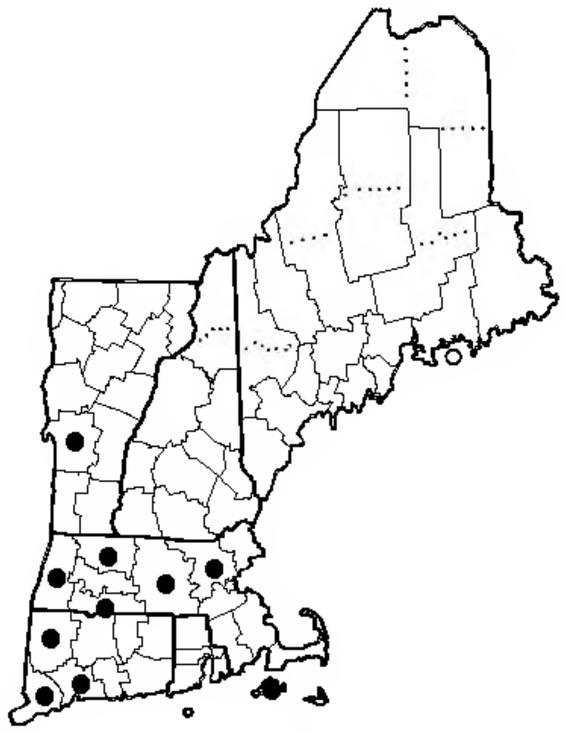
Galium trifidum
subsp. *subbiflorum*



Galium triflorum

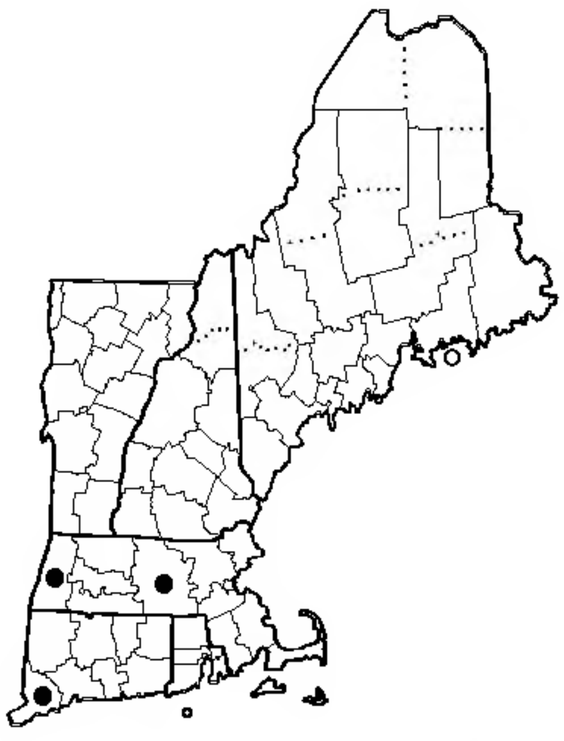


GALIUM VERUM
var. *VERUM*

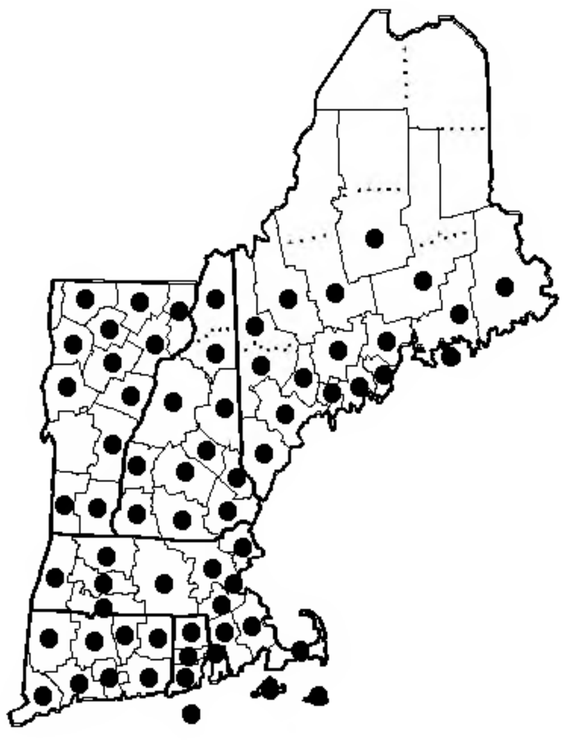


GALIUM VERUM
var. *WIRTGENII*

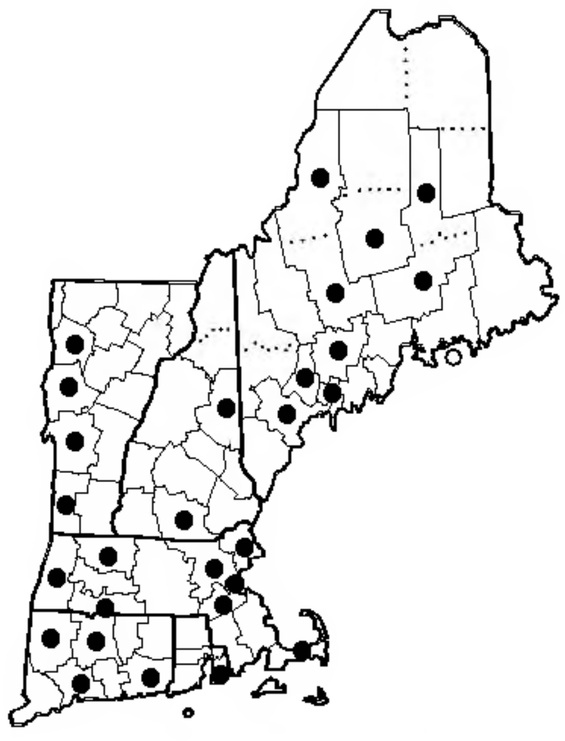
Figure 29. Distribution maps.



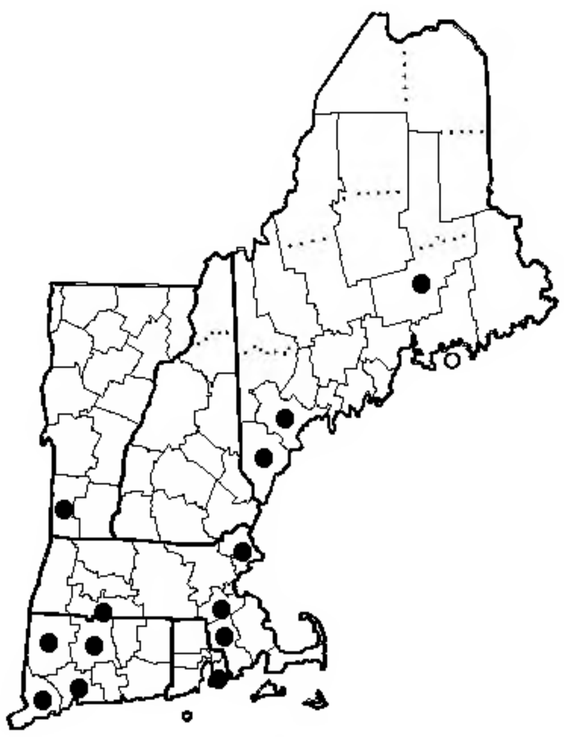
GALIUM X POMERANICUM



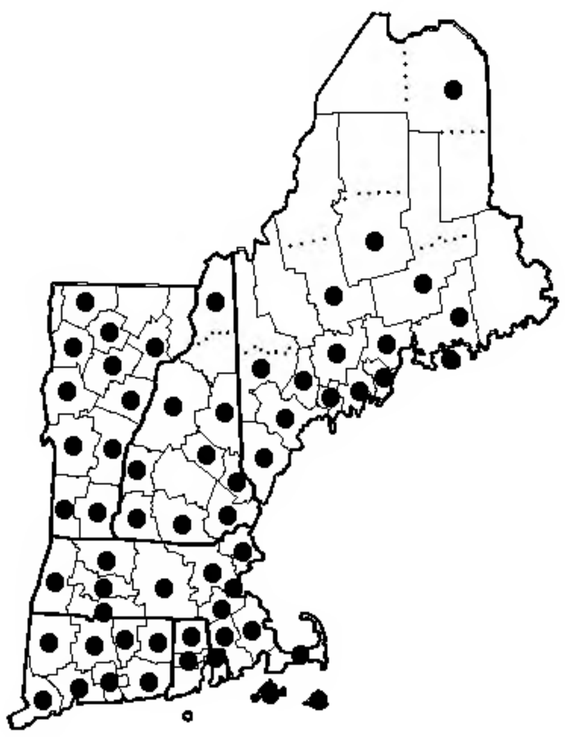
Houstonia caerulea



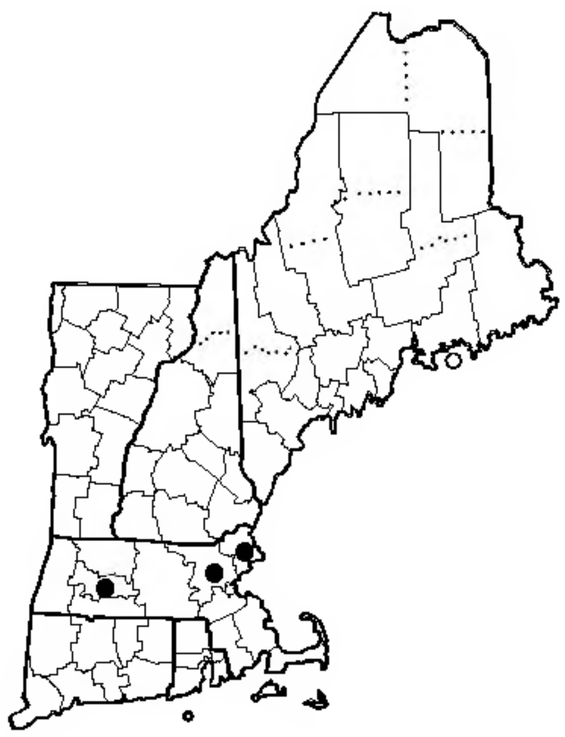
Houstonia longifolia



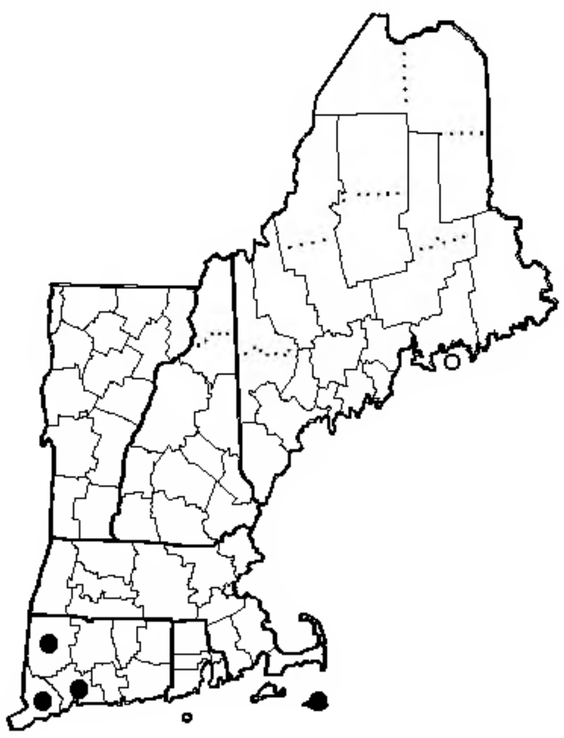
Houstonia purpurea
var. *calycosa*



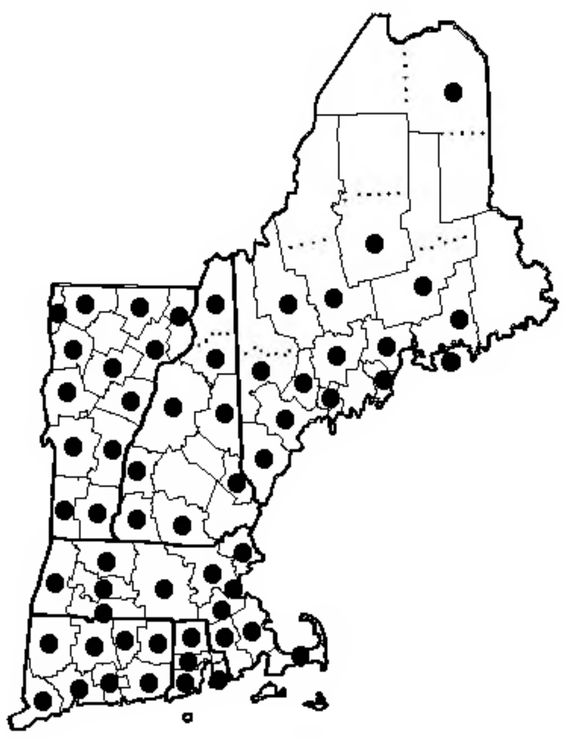
Mitchella repens



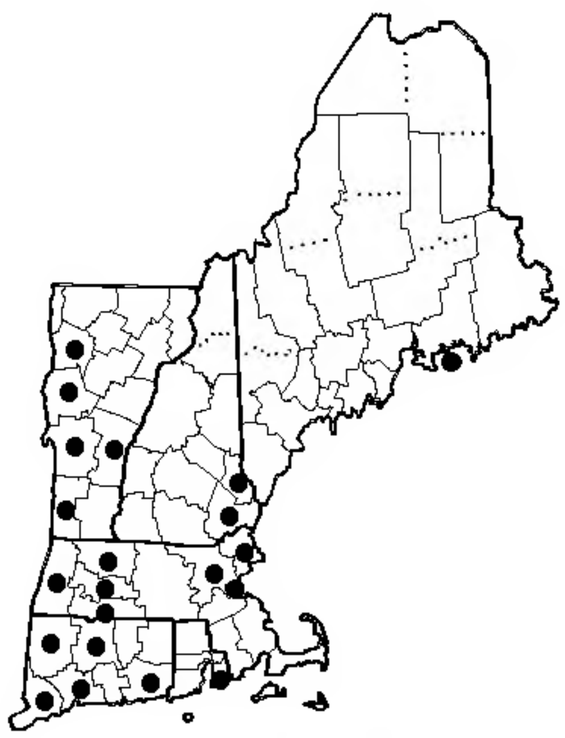
SHERARDIA ARVENSIS



BUDDLEJA DAVIDII

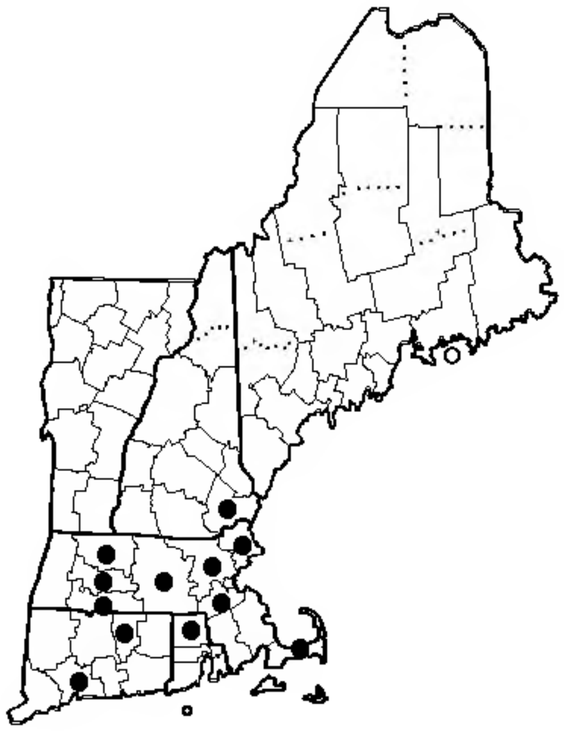


Scrophularia lanceolata

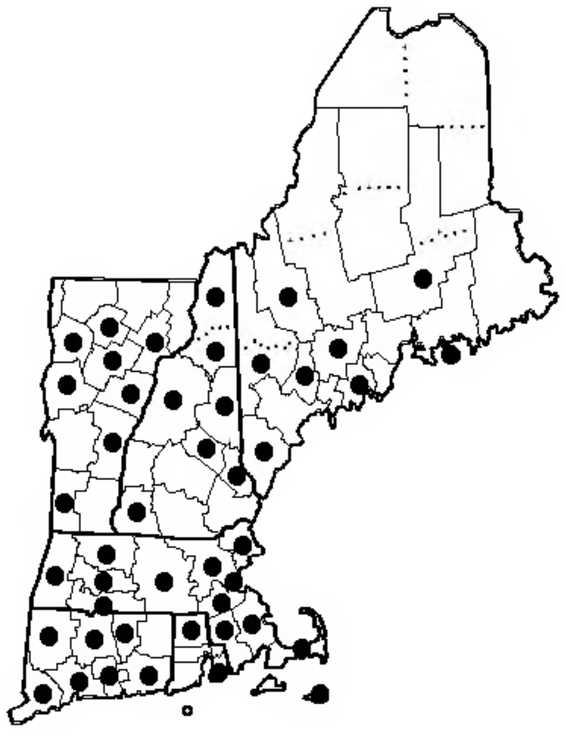


Scrophularia marilandica

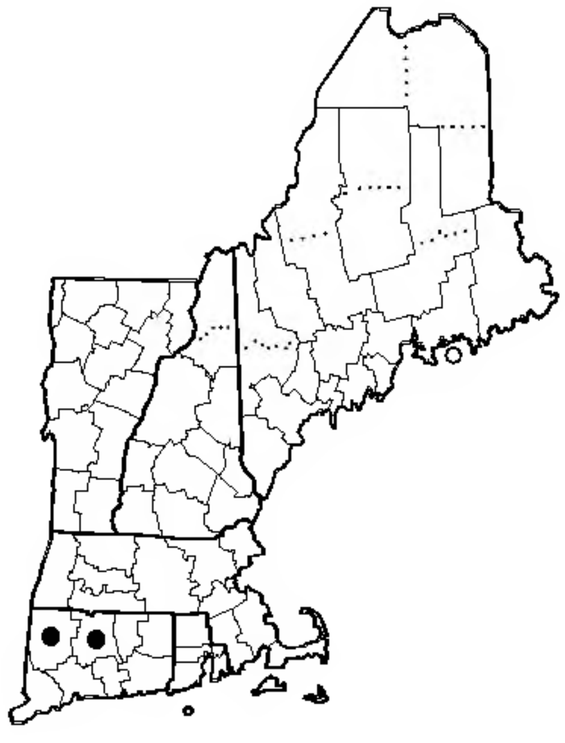
Figure 30. Distribution maps.



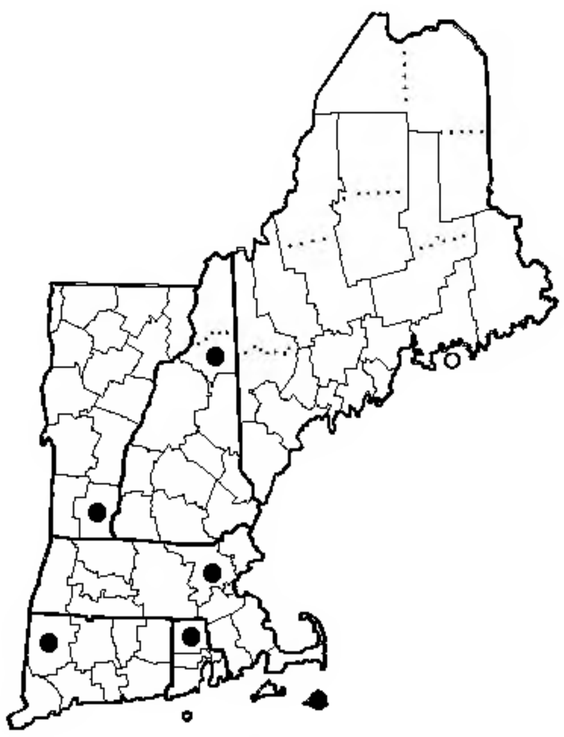
SCROPHULARIA NODOSA



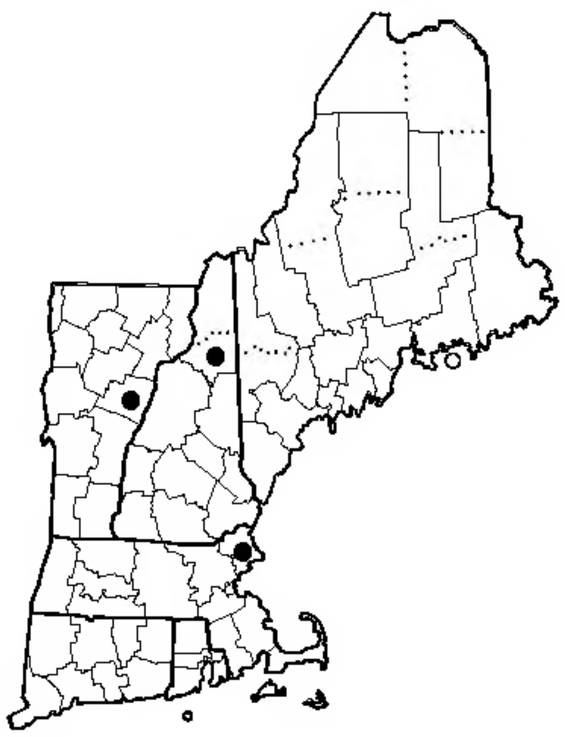
VERBSCUM BLATTARIA



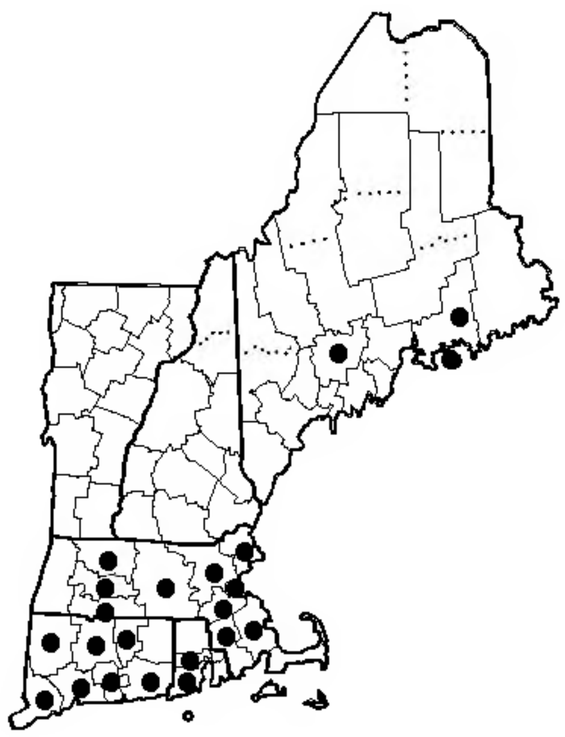
VERBSCUM DENSIFLORUM



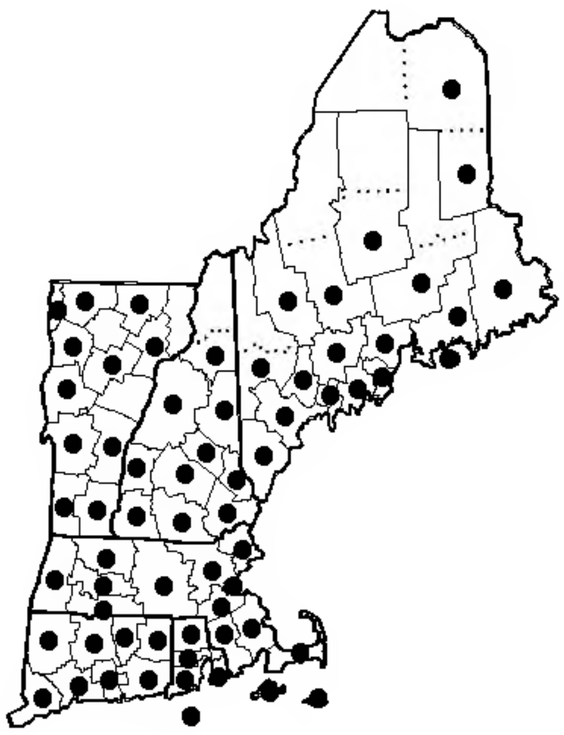
VERBSCUM LYCHNITIS
subsp. *LYCHNITIS*



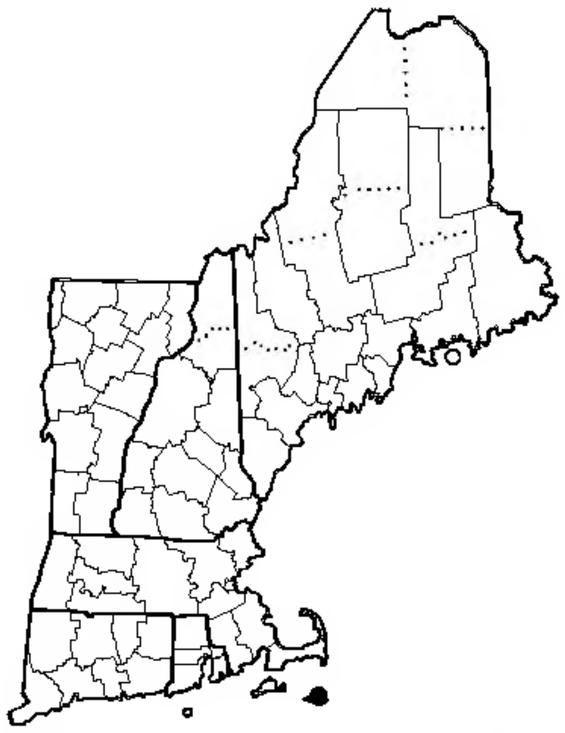
VERBSCUM NIGRUM



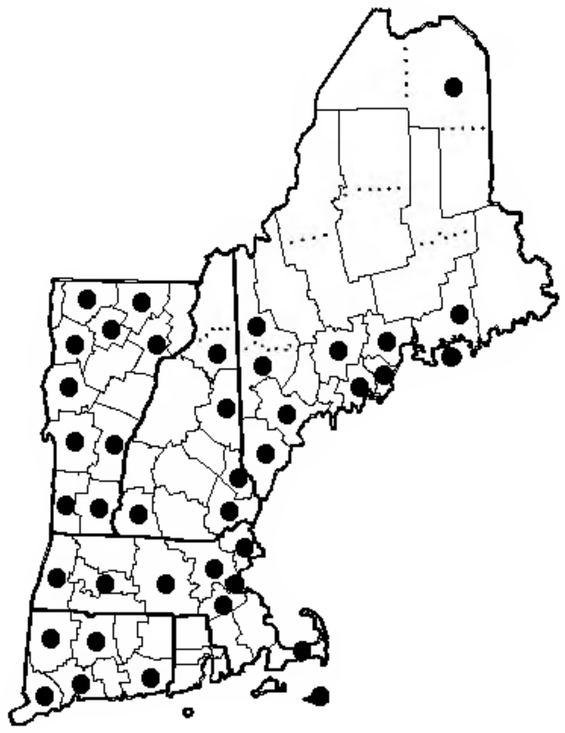
VERBSCUM PHLOMOIDES



VERBSCUM THAPSUS
subsp. *THAPSUS*

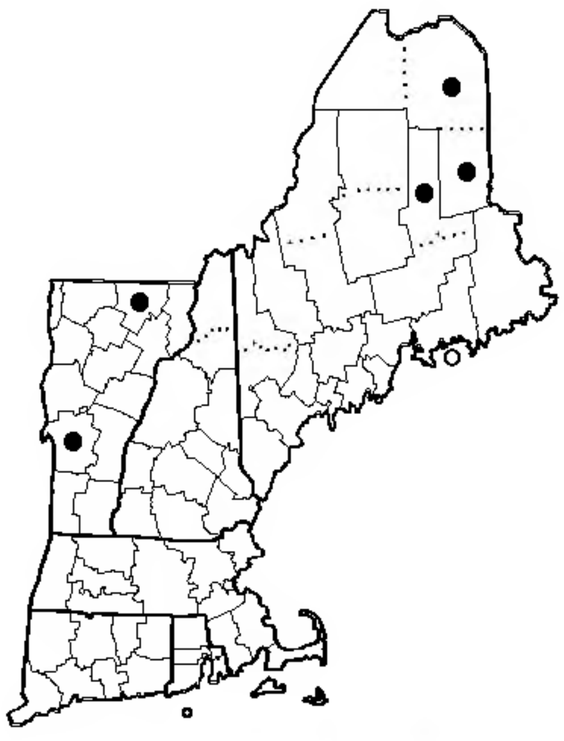


VERBSCUM LYCHNITIS subsp. *LYCHNITIS*
X *V. THAPSUS* subsp. *THAPSUS*

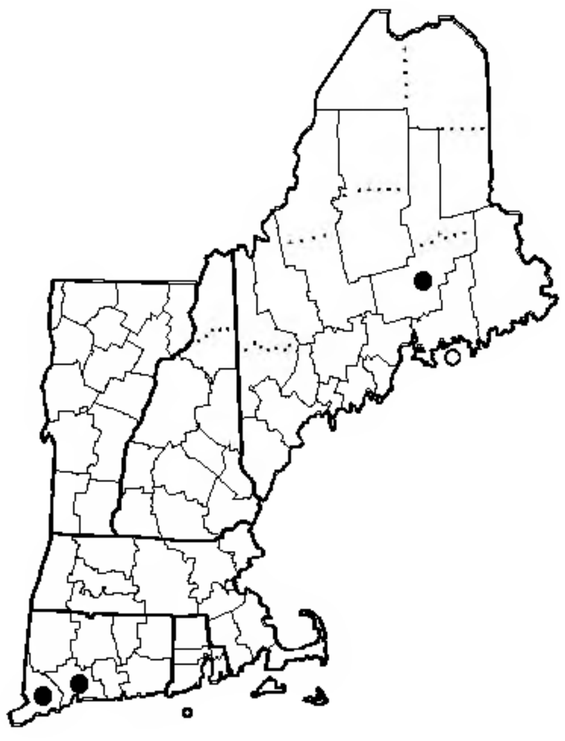


VALERIANA OFFICINALIS

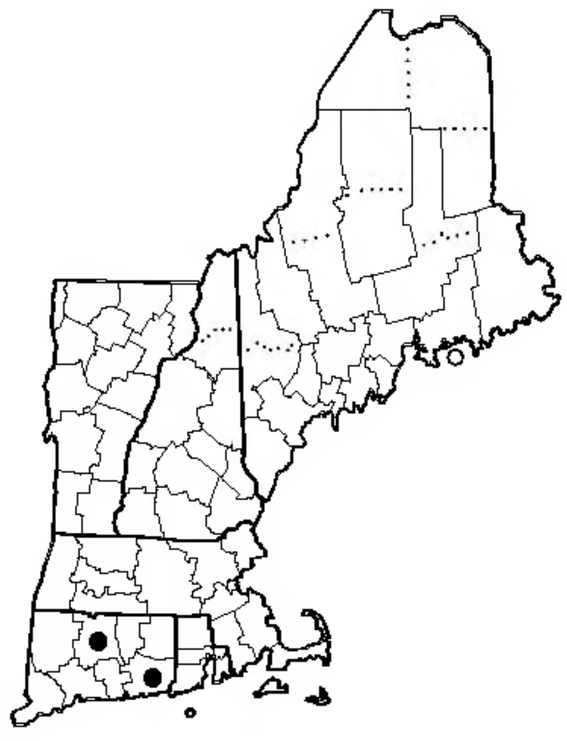
Figure 31. Distribution maps.



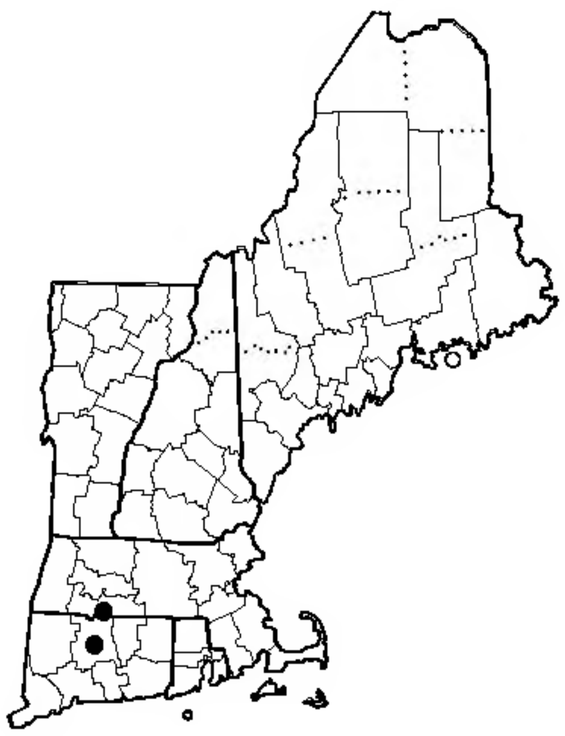
Valeriana sitchensis
subsp. *uliginosa*



VALERIANELLA LOCUSTA



Valerianella radiata



Valerianella umbillicata

Figure 32. Distribution maps.